

Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269



Scaled data based on original data using
LM-79-2024 Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Test Report Prepared for
Cooper Lighting Solutions

Brand: NEO-RAY

Report Number: P735896

Luminaire Tested: S122DRP-S865D940-X4F0-XX-UDD-W-W

Issue Date: 1/24/2024

Test Information

Test Method: LM-79-2024
Report Number: P735896
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2308-143-1)
Test Lab: INNOVATION CENTER
Issue Date: 1/24/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S122DRP-S865D940-X4F0-XX-UDD-W-W
Description: DEFINE 2 DIRECT RECESSED WITH WALL WASH OPTIC
Light Source: 4000K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

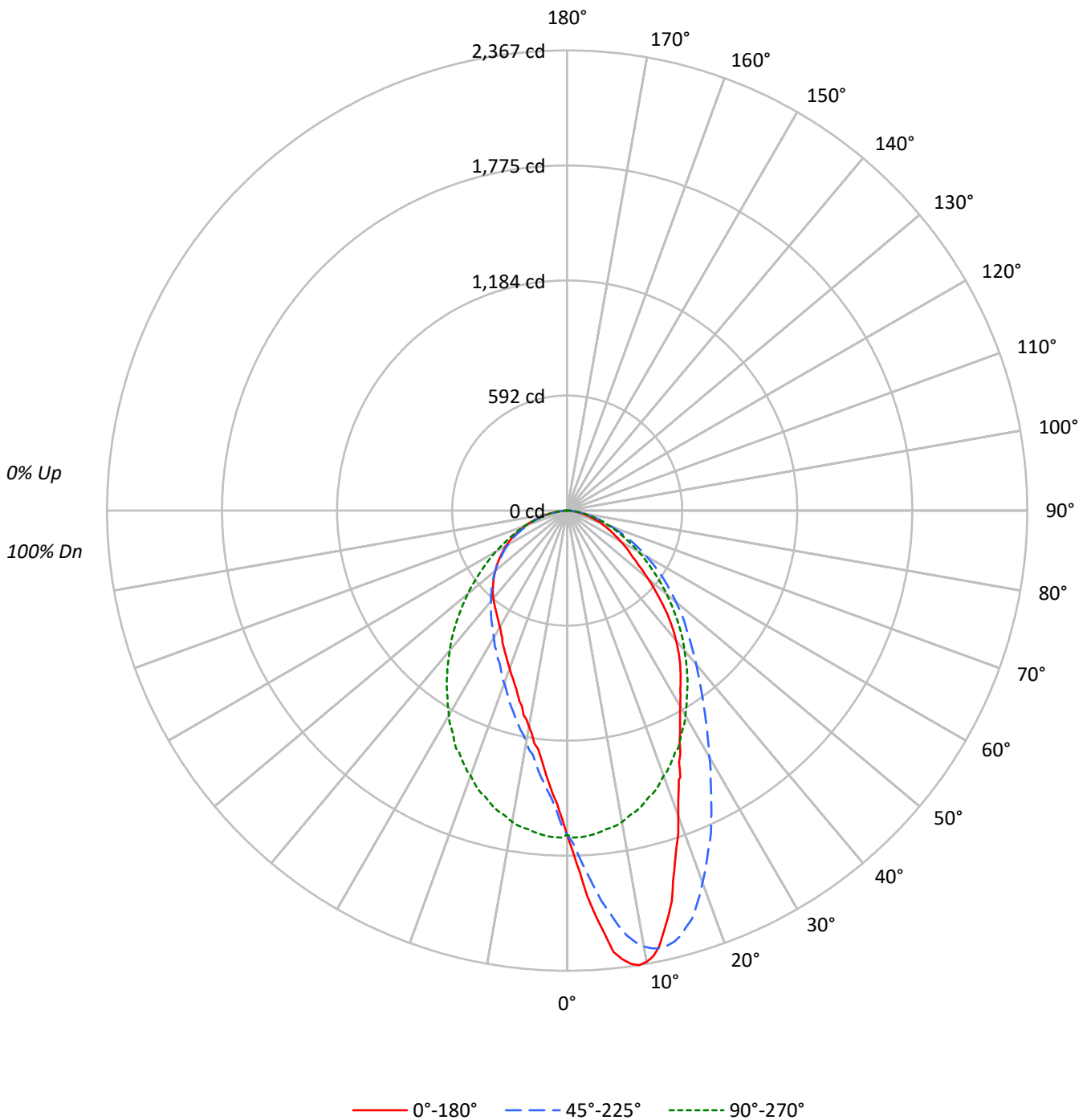
Lumens per Lamp: N/A
Luminaire Lumens: 3392.3 lumens
Efficiency: N/A
Efficacy: 96.9 lumens/watt
Spacing Criteria (0/90/45): 0.9 / 1.11 / 1.12
Luminous Opening: Rectangular (W 4' x L: 0.14' x H: 0')
CIE Type: Direct

Input Watts (W): 35
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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Luminous Intensity Polar Plot



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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20					20					20					20					20					
RC	80					70					50					30					10					0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0		
RCR																										
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100					100			
1	110	106	102	98	107	103	100	97	99	96	94	95	93	91	92	90	88	86					86			
2	101	94	87	82	98	92	86	81	88	83	79	85	81	78	82	79	76	74					74			
3	93	83	76	70	91	82	75	69	79	73	68	76	71	67	74	69	66	64					64			
4	86	75	67	60	83	73	66	60	71	64	59	69	63	58	67	62	58	56					56			
5	79	67	59	53	77	66	58	53	64	57	52	62	56	52	61	55	51	49					49			
6	74	61	53	47	72	60	52	47	59	52	46	57	51	46	55	50	46	44					44			
7	69	56	48	42	67	55	47	42	54	47	42	52	46	41	51	45	41	39					39			
8	64	51	43	38	63	51	43	38	50	43	38	48	42	37	47	41	37	35					35			
9	60	48	40	35	59	47	40	34	46	39	34	45	39	34	44	38	34	32					32			
10	57	44	37	32	55	44	36	32	43	36	31	42	36	31	41	35	31	30					30			

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°	135°	180°
0°	32048	32048	32048	32048	32048
5°	42032	38846	32214	27018	25780
10°	46005	44462	31736	23618	22008
15°	41387	45034	30874	21320	19519
20°	34151	41652	29698	19338	17698
25°	29187	37159	28652	17887	16405
30°	25815	32453	27009	16759	15361
35°	23878	28744	25328	15973	14924
40°	21852	25935	23576	15296	14837
45°	19251	23674	21803	14826	14641
50°	16207	21826	19978	14425	14461
55°	13632	20083	18049	13941	14209
60°	12290	18149	16388	13524	13920
65°	11152	15946	14595	12871	13654
70°	10048	13780	13139	11914	12943
75°	8763	11660	11236	10806	11830
80°	7361	9132	9132	9387	9896
85°	5558	6572	6815	7322	7079

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 34762 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	164.1	4.8
10°-20°	450.3	13.3
20°-30°	590.6	17.4
30°-40°	624.2	18.4
40°-50°	579.5	17.1
50°-60°	463.8	13.7
60°-70°	317.2	9.4
70°-80°	163.7	4.8
80°-90°	38.9	1.1
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	1205.0	35.5
0°-40°	1829.2	53.9
0°-60°	2872.5	84.7
0°-90°	3392.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3392.3	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1667	1667	1667	1667	1667	
5°	2178	2013	1670	1400	1336	215
15°	2080	2263	1552	1071	981	571
25°	1376	1752	1351	843	774	634
35°	1018	1225	1079	681	636	635
45°	708	871	802	545	539	544
55°	407	599	539	416	424	373
65°	245	351	321	283	300	243
75°	118	157	151	146	159	126
85°	25	30	31	33	32	31
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
0°	1667.3	1667.3	1667.3	1667.3	1667.3	1667.3	1667.3	1667.3	1667.3
1°	1759.0	1749.8	1709.7	1712.0	1682.2	1648.9	1618.0	1598.5	1582.5
2°	1862.1	1843.7	1780.7	1749.8	1682.2	1611.1	1547.0	1529.8	1508.0
3°	1987.0	1943.4	1856.4	1783.0	1679.9	1576.8	1488.5	1457.6	1454.1
4°	2087.8	2048.9	1933.1	1817.4	1674.2	1543.5	1443.8	1410.6	1394.6
5°	2178.4	2153.1	2013.3	1860.9	1669.6	1511.4	1400.3	1354.5	1336.1
6°	2282.6	2231.1	2077.5	1904.5	1661.6	1480.5	1361.3	1306.3	1281.1
7°	2325.0	2292.9	2149.7	1933.1	1651.2	1445.0	1312.1	1252.5	1234.1
8°	2354.8	2342.2	2207.0	1980.1	1646.7	1411.7	1268.5	1231.8	1210.1
9°	2367.4	2357.1	2248.3	1999.6	1638.6	1394.6	1246.7	1186.0	1161.9
10°	2357.1	2361.7	2278.0	2029.4	1626.0	1359.0	1210.1	1157.4	1127.6
11°	2333.0	2344.5	2294.1	2063.8	1610.0	1330.4	1176.8	1123.0	1094.3
12°	2287.2	2312.4	2301.0	2087.8	1595.1	1305.2	1153.9	1102.4	1077.1
13°	2216.2	2272.3	2296.4	2098.1	1585.9	1276.5	1125.3	1065.7	1033.6
14°	2152.0	2210.4	2283.8	2121.1	1569.9	1244.4	1098.9	1039.3	1011.8
15°	2079.8	2147.4	2263.1	2127.9	1551.5	1218.1	1071.4	1006.1	980.9
16°	1979.0	2069.5	2225.3	2136.0	1529.8	1188.3	1046.2	984.3	951.1
17°	1895.3	1992.7	2196.7	2140.5	1518.3	1165.4	1024.4	951.1	929.3
18°	1818.5	1928.5	2145.1	2137.1	1500.0	1139.0	992.3	927.0	906.4
19°	1757.8	1847.2	2093.6	2129.1	1474.8	1113.8	968.3	909.8	885.8
20°	1669.6	1772.7	2036.3	2125.6	1451.9	1090.9	945.4	885.8	865.2
21°	1596.2	1701.7	1983.5	2114.2	1435.8	1069.1	928.2	862.9	844.5
22.5°	1500.0	1592.8	1895.3	2092.4	1400.3	1032.5	890.4	841.1	815.9
23°	1488.5	1567.6	1872.4	2085.5	1390.0	1024.4	877.8	828.5	807.9
24°	1416.3	1500.0	1818.5	2063.8	1363.6	999.2	857.1	813.6	789.5
25°	1376.2	1445.0	1752.1	2043.1	1351.0	976.3	843.4	794.1	773.5
26°	1320.1	1399.1	1692.5	2013.3	1323.5	955.7	821.6	776.9	757.4
27°	1278.8	1345.3	1630.6	1991.6	1291.4	933.9	804.4	759.7	735.7
28°	1238.7	1302.9	1571.0	1956.0	1268.5	909.8	791.8	744.8	721.9
29°	1197.5	1253.6	1522.9	1928.5	1246.7	889.2	772.3	725.4	703.6
30°	1163.1	1214.7	1462.2	1891.9	1216.9	865.2	755.1	711.6	692.1
32.5°	1084.0	1127.6	1338.4	1804.8	1145.9	817.0	713.9	673.8	662.3
35°	1017.6	1046.2	1225.0	1707.4	1079.4	765.5	680.7	641.7	636.0
37.5°	947.7	975.2	1121.8	1605.4	1009.5	718.5	642.8	617.6	613.1
40°	870.9	907.6	1033.6	1504.6	939.6	672.6	609.6	590.1	591.3
42.5°	794.1	836.5	947.7	1386.5	874.3	629.1	577.5	563.8	566.1
45°	708.2	762.0	870.9	1278.8	802.1	587.8	545.4	538.6	538.6
47.5°	618.8	687.5	804.4	1167.7	733.4	546.6	514.5	509.9	512.2
50°	542.0	603.9	729.9	1060.0	668.1	508.8	482.4	481.3	483.6
52.5°	466.4	528.3	664.6	959.1	601.6	474.4	451.5	451.5	453.8
55°	406.8	454.9	599.3	853.7	538.6	434.3	416.0	419.4	424.0
57.5°	365.5	397.6	535.1	752.9	480.1	395.3	383.9	386.2	391.9
60°	319.7	344.9	472.1	660.0	426.3	357.5	351.8	356.4	362.1
62.5°	278.5	300.2	412.5	576.4	367.8	320.9	318.6	325.4	331.2
65°	245.2	260.1	350.6	491.6	320.9	284.2	283.0	293.3	300.2



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
67.5°	<i>210.8</i>	222.3	296.8	411.4	273.9	247.5	247.5	259.0	264.7
70°	<i>178.8</i>	187.9	245.2	339.2	233.8	210.8	212.0	225.7	230.3
72.5°	<i>145.5</i>	153.6	199.4	272.7	189.1	176.5	179.9	191.4	195.9
75°	<i>118.0</i>	123.8	157.0	215.4	151.3	140.9	145.5	155.8	159.3
77.5°	<i>90.5</i>	95.1	115.7	158.1	115.7	110.0	114.6	123.8	123.8
80°	<i>66.5</i>	67.6	82.5	111.2	82.5	79.1	84.8	89.4	89.4
82.5°	<i>43.5</i>	45.8	53.9	71.0	55.0	53.9	56.1	59.6	59.6
85°	<i>25.2</i>	26.4	29.8	39.0	30.9	30.9	33.2	33.2	32.1
87.5°	<i>10.3</i>	11.5	12.6	14.9	13.8	14.9	14.9	12.6	13.8
90°	<i>0.0</i>	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

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CIE UGR TABLE:

Reflectances:											
Ceiling		0.7	0.7	0.5	0.5	0.3	0.7	0.7	0.5	0.5	0.3
Wall		0.5	0.3	0.5	0.3	0.3	0.5	0.3	0.5	0.3	0.3
Reference plane		0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Room dimensions		Viewed crosswise					Viewed endwise				
X=2H	Y=2H	21.27	22.79	21.63	23.10	23.41	20.84	22.36	21.21	22.68	22.99
	3H	22.47	23.83	22.84	24.16	24.52	22.35	23.72	22.73	24.05	24.41
	4H	22.86	24.15	23.26	24.50	24.87	22.88	24.16	23.28	24.51	24.89
	6H	23.12	24.30	23.53	24.67	25.06	23.23	24.42	23.65	24.78	25.18
	8H	23.18	24.31	23.61	24.70	25.10	23.33	24.46	23.76	24.85	25.25
	12H	23.21	24.29	23.64	24.67	25.10	23.38	24.46	23.81	24.84	25.27
4H	2H	22.32	23.60	22.72	23.95	24.33	21.91	23.19	22.31	23.54	23.92
	3H	23.68	24.75	24.09	25.15	25.55	23.54	24.60	23.95	25.00	25.40
	4H	24.15	25.10	24.58	25.52	25.96	24.12	25.08	24.55	25.49	25.93
	6H	24.46	25.29	24.91	25.73	26.19	24.54	25.37	25.00	25.82	26.28
	8H	24.54	25.32	25.00	25.76	26.23	24.66	25.44	25.12	25.88	26.35
	12H	24.58	25.28	25.07	25.76	26.23	24.73	25.43	25.21	25.91	26.38
8H	4H	24.50	25.28	24.97	25.73	26.19	24.46	25.24	24.92	25.68	26.15
	6H	24.90	25.55	25.40	26.04	26.52	24.98	25.62	25.48	26.11	26.59
	8H	25.02	25.60	25.54	26.11	26.60	25.15	25.72	25.66	26.23	26.72
	12H	25.11	25.62	25.62	26.11	26.68	25.27	25.78	25.78	26.27	26.84
12H	4H	24.52	25.22	25.01	25.70	26.17	24.48	25.17	24.96	25.65	26.12
	6H	24.95	25.53	25.46	26.04	26.52	25.02	25.60	25.53	26.11	26.60
	8H	25.12	25.63	25.63	26.12	26.68	25.24	25.75	25.75	26.24	26.80