

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: P243300

Luminaire Tested: S123DRP-H1165D840-X4F0-XX-UDD-F-W

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-2024
Report Number: P243300
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-49)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S123DRP-H1165D840-X4F0-XX-UDD-F-W
Description: DEFINE 3 DIRECT RECESSED WITH SATIN FLUSH DIFFUSER.
HIGH PERFORMANCE LIGHT ENGINE
Light Source: (184) 4000K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

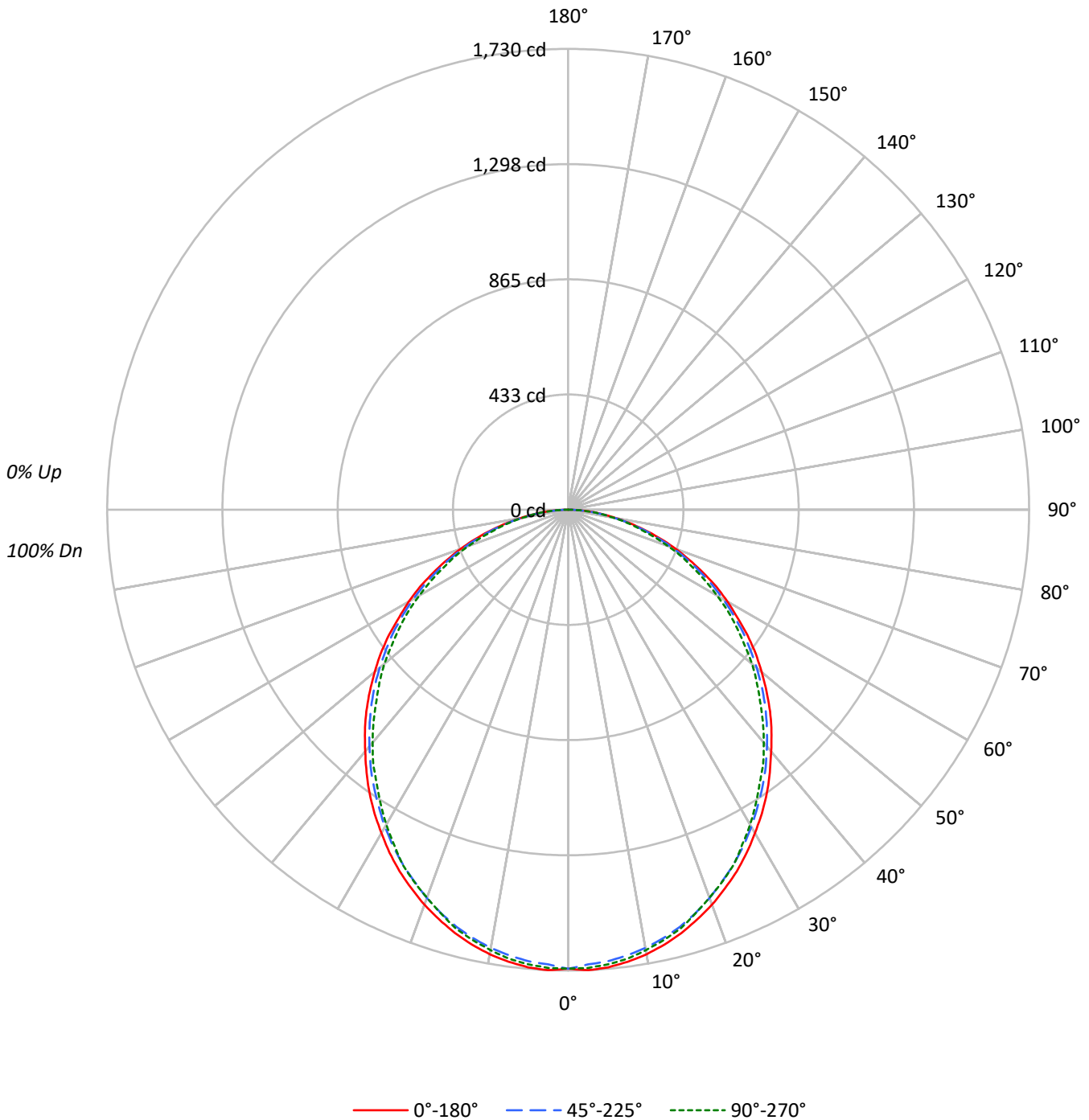
Lumens per Lamp: N/A
Luminaire Lumens: 4558.2 lumens
Efficiency: N/A
Efficacy: 120.9 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.18 / 1.31
Luminous Opening: Rectangular (W 0.23' x L: 3.88' x H: 0')
CIE Type: Direct

Input Watts (W): 37.7
Input Voltage (V): 120
Input Current (Ain): 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	0
RCR																		
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	109	104	100	96	106	102	98	94	97	94	91	94	91	89	90	88	86	84
2	99	91	84	78	96	89	83	77	85	80	76	82	78	74	79	75	72	70
3	90	80	72	65	88	78	71	65	75	69	64	73	67	62	70	65	61	59
4	83	71	62	55	80	70	61	55	67	60	54	65	59	54	63	57	53	51
5	76	63	54	48	74	62	54	48	60	53	47	58	52	47	56	51	46	44
6	70	57	48	42	69	56	48	42	54	47	41	53	46	41	51	45	41	39
7	65	52	43	37	64	51	43	37	50	42	37	48	41	36	47	41	36	34
8	61	47	39	33	59	47	39	33	45	38	33	44	37	33	43	37	32	30
9	57	44	35	30	56	43	35	30	42	35	30	41	34	29	40	34	29	27
10	53	40	32	27	52	40	32	27	39	32	27	38	31	27	37	31	27	25

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	20886	20886	20886
5°	20983	20707	20844
10°	20859	20561	20665
15°	20642	20339	20428
20°	20357	20009	19991
25°	20024	19644	19663
30°	19623	19245	19106
35°	19234	18812	18540
40°	18746	18363	18072
45°	18361	17922	17459
50°	17867	17411	16983
55°	17350	16900	16329
60°	16737	16289	15634
65°	16013	15522	14871
70°	15204	14701	14095
75°	14101	13703	12973
80°	12690	12397	11999
85°	11849	11265	10862

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 18361 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	162.6	3.6
10°-20°	459.7	10.1
20°-30°	680.6	14.9
30°-40°	798.2	17.5
40°-50°	807.0	17.7
50°-60°	713.7	15.7
60°-70°	536.0	11.8
70°-80°	308.9	6.8
80°-90°	91.6	2.0
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°	1302.9	28.6
0°-40°	2101.1	46.1
0°-60°	3621.7	79.5
0°-90°	4558.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4558.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1723	1723	1723	1723	1723	
5°	1724	1717	1702	1716	1713	164
15°	1645	1636	1621	1632	1628	464
25°	1497	1486	1469	1476	1470	689
35°	1300	1288	1271	1267	1253	812
45°	1071	1062	1046	1031	1018	825
55°	821	815	800	784	773	733
65°	558	554	541	527	518	553
75°	301	298	293	284	277	319
85°	85	84	81	80	78	95
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1723.1	1723.1	1723.1	1723.1	1723.1
2.5°	1730.2	1724.5	1708.9	1724.5	1721.6
5°	1724.5	1717.4	1701.8	1716.0	1713.1
7.5°	1711.7	1704.6	1687.5	1703.2	1700.3
10°	1694.7	1687.5	1670.5	1683.3	1679.0
12.5°	1671.9	1664.8	1647.8	1657.7	1654.9
15°	1644.9	1636.4	1620.8	1632.1	1627.9
17.5°	1612.3	1605.2	1588.1	1602.3	1589.5
20°	1578.2	1571.1	1551.2	1564.0	1549.8
22.5°	1538.4	1529.9	1510.0	1518.5	1511.4
25°	1497.2	1485.8	1468.8	1475.9	1470.2
27.5°	1451.7	1440.4	1423.3	1426.2	1416.2
30°	1402.0	1392.1	1375.0	1377.9	1365.1
32.5°	1352.3	1343.8	1322.5	1322.5	1309.7
35°	1299.8	1288.4	1271.3	1267.1	1252.9
37.5°	1242.9	1233.0	1217.4	1210.3	1201.7
40°	1184.7	1179.0	1160.5	1152.0	1142.1
42.5°	1129.3	1119.3	1103.7	1092.4	1081.0
45°	1071.1	1062.5	1045.5	1031.3	1018.5
47.5°	1010.0	1002.9	985.8	970.2	960.3
50°	947.5	941.8	923.3	906.3	900.6
52.5°	886.4	879.3	860.8	845.2	833.8
55°	821.0	815.4	799.7	784.1	772.7
57.5°	751.4	751.4	734.4	720.2	711.7
60°	690.4	683.3	671.9	656.3	644.9
62.5°	626.4	622.2	606.6	590.9	582.4
65°	558.3	554.0	541.2	527.0	518.5
67.5°	491.5	490.1	478.7	467.3	461.7
70°	429.0	426.1	414.8	403.4	397.7
72.5°	365.1	362.2	352.3	342.3	335.2
75°	301.1	298.3	292.6	284.1	277.0
77.5°	238.6	238.6	231.5	228.7	225.9
80°	181.8	180.4	177.6	174.7	171.9
82.5°	130.7	129.3	126.4	125.0	125.0
85°	85.2	83.8	81.0	79.5	78.1
87.5°	44.0	41.2	39.8	36.9	35.5
90°	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	22.01	23.63	22.37	23.95	24.26	21.70	23.32	22.06	23.64	23.95
	3H	23.81	25.28	24.18	25.60	25.96	23.45	24.92	23.83	25.25	25.61
	4H	24.48	25.87	24.88	26.22	26.59	24.10	25.49	24.50	25.84	26.21
	6H	24.98	26.27	25.39	26.63	27.02	24.60	25.89	25.02	26.25	26.64
	8H	25.15	26.37	25.57	26.76	27.16	24.78	26.00	25.20	26.39	26.79
	12H	25.27	26.45	25.70	26.83	27.26	24.90	26.07	25.33	26.45	26.88
4H	2H	22.60	23.98	23.00	24.33	24.71	22.36	23.74	22.75	24.09	24.46
	3H	24.63	25.79	25.04	26.18	26.58	24.33	25.49	24.74	25.89	26.29
	4H	25.44	26.49	25.87	26.90	27.33	25.11	26.16	25.54	26.57	27.01
	6H	26.07	26.98	26.52	27.42	27.88	25.74	26.66	26.19	27.10	27.55
	8H	26.28	27.14	26.74	27.59	28.05	25.96	26.82	26.42	27.26	27.73
	12H	26.46	27.23	26.94	27.71	28.18	26.13	26.90	26.61	27.38	27.85
8H	4H	25.73	26.59	26.19	27.03	27.50	25.44	26.30	25.90	26.74	27.21
	6H	26.48	27.20	26.98	27.69	28.16	26.20	26.91	26.69	27.40	27.88
	8H	26.78	27.42	27.29	27.93	28.42	26.50	27.14	27.01	27.65	28.13
	12H	27.04	27.61	27.55	28.10	28.66	26.75	27.31	27.25	27.80	28.36
12H	4H	25.76	26.53	26.24	27.01	27.48	25.48	26.25	25.96	26.73	27.20
	6H	26.54	27.18	27.05	27.69	28.17	26.26	26.91	26.77	27.41	27.90
	8H	26.90	27.46	27.40	27.95	28.52	26.62	27.19	27.13	27.68	28.24