

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: P243487

Luminaire Tested: S124DRP-H1195D940-X4F0-XX-UDD-F-W

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-2024
Report Number: P243487
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-84)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S124DRP-H1195D940-X4F0-XX-UDD-F-W
Description: DEFINE 4 DIRECT RECESSED WITH SATIN FLUSH DIFFUSER.
HIGH PERFORMANCE LIGHT ENGINE
Light Source: (184) 4000K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

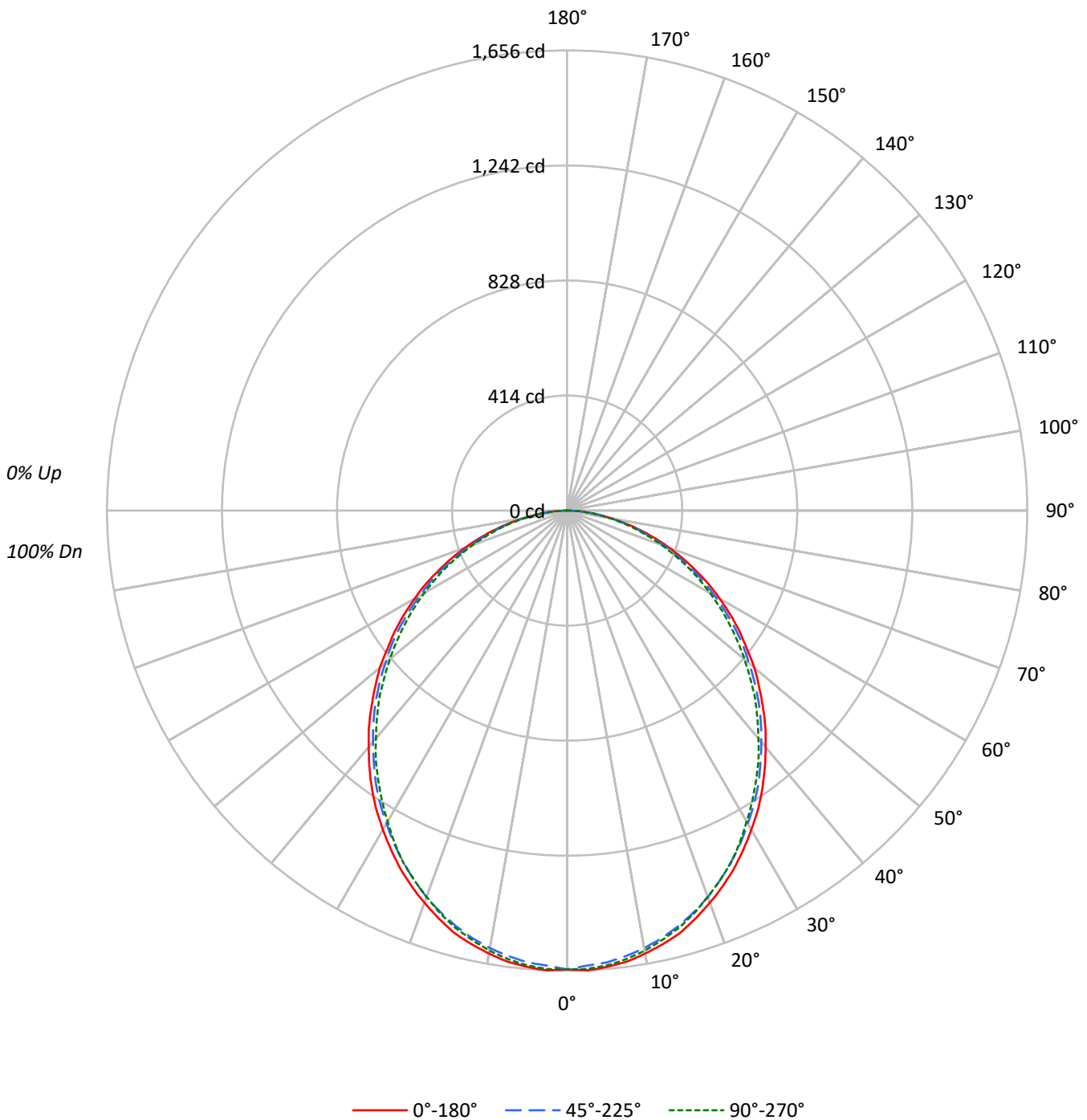
Lumens per Lamp: N/A
Luminaire Lumens: 4250.3 lumens
Efficiency: N/A
Efficacy: 112.7 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.17 / 1.3
Luminous Opening: Rectangular (W 0.31' x L: 3.88' x H: 0')
CIE Type: Direct

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	95	98	95	92	94	91	89	90	88	86	84
2	99	91	84	79	97	89	83	78	86	80	76	82	78	74	79	76	73	70
3	91	80	72	66	88	79	71	65	76	69	64	73	67	63	70	66	62	60
4	83	71	63	56	81	70	62	56	67	60	55	65	59	54	63	58	53	51
5	77	64	55	48	74	63	54	48	61	53	48	59	52	47	57	51	47	44
6	71	58	49	42	69	57	48	42	55	47	42	53	46	41	52	46	41	39
7	66	52	44	38	64	51	43	37	50	43	37	48	42	37	47	41	37	35
8	61	48	39	34	60	47	39	33	46	38	33	45	38	33	43	37	33	31
9	57	44	36	30	56	43	36	30	42	35	30	41	35	30	40	34	30	28
10	54	41	33	28	52	40	33	27	39	32	27	38	32	27	37	31	27	25

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	14676	14676	14676
5°	14708	14564	14660
10°	14611	14429	14514
15°	14476	14242	14303
20°	14207	14004	13991
25°	13940	13690	13703
30°	13609	13347	13264
35°	13280	13017	12858
40°	12892	12611	12424
45°	12514	12260	12024
50°	12168	11815	11518
55°	11721	11409	11054
60°	11273	10891	10556
65°	10737	10369	10031
70°	10159	9707	9393
75°	9366	8998	8720
80°	8252	8113	7909
85°	7262	7262	7129

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 12514 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	155.7	3.7
10°-20°	438.9	10.3
20°-30°	646.3	15.2
30°-40°	752.0	17.7
40°-50°	752.3	17.7
50°-60°	657.9	15.5
60°-70°	488.7	11.5
70°-80°	278.4	6.6
80°-90°	80.2	1.9
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°	1240.9	29.2
0°-40°	1992.8	46.9
0°-60°	3403.0	80.1
0°-90°	4250.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4250.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1651	1651	1651	1651	1651	
5°	1648	1646	1632	1644	1643	156
15°	1573	1565	1548	1557	1554	443
25°	1421	1415	1396	1400	1397	654
35°	1224	1213	1200	1189	1185	765
45°	996	991	975	960	956	769
55°	756	751	736	720	713	676
65°	510	506	493	482	477	507
75°	273	267	262	257	254	289
85°	71	70	71	68	70	82
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1651.0	1651.0	1651.0	1651.0	1651.0
2.5°	1656.4	1652.4	1638.9	1652.4	1651.0
5°	1648.3	1645.7	1632.2	1644.3	1643.0
7.5°	1637.6	1632.2	1617.4	1629.5	1628.2
10°	1618.8	1614.8	1598.6	1610.7	1608.0
12.5°	1597.3	1593.3	1575.8	1585.2	1582.5
15°	1573.1	1565.0	1547.6	1557.0	1554.3
17.5°	1538.2	1532.8	1515.3	1523.4	1519.4
20°	1501.9	1495.2	1480.4	1481.8	1479.1
22.5°	1463.0	1456.2	1438.8	1444.1	1438.8
25°	1421.3	1414.6	1395.8	1399.8	1397.1
27.5°	1374.3	1367.6	1350.1	1351.5	1346.1
30°	1325.9	1317.9	1300.4	1299.1	1292.3
32.5°	1277.6	1269.5	1252.0	1246.7	1239.9
35°	1223.8	1213.1	1199.6	1188.9	1184.9
37.5°	1168.7	1163.4	1143.2	1136.5	1131.1
40°	1111.0	1105.6	1086.8	1077.4	1070.7
42.5°	1055.9	1049.2	1031.7	1018.3	1012.9
45°	995.5	991.4	975.3	960.5	956.5
47.5°	936.3	935.0	914.8	900.1	893.4
50°	879.9	871.9	854.4	841.0	832.9
52.5°	814.1	812.8	798.0	780.5	773.8
55°	756.3	751.0	736.2	720.1	713.3
57.5°	695.9	693.2	674.4	660.9	654.2
60°	634.1	628.7	612.6	600.5	593.8
62.5°	575.0	568.3	553.5	541.4	534.7
65°	510.5	506.5	493.0	482.3	476.9
67.5°	450.0	444.7	431.2	421.8	416.5
70°	390.9	382.9	373.5	365.4	361.4
72.5°	331.8	325.1	317.0	311.7	306.3
75°	272.7	267.3	262.0	256.6	253.9
77.5°	216.3	210.9	208.2	206.9	204.2
80°	161.2	158.5	158.5	157.2	154.5
82.5°	114.2	111.5	111.5	111.5	110.2
85°	71.2	69.9	71.2	68.5	69.9
87.5°	33.6	33.6	34.9	33.6	34.9
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	20.63	22.25	21.00	22.56	22.87	20.28	21.90	20.65	22.21	22.53
	3H	22.38	23.84	22.76	24.17	24.53	21.99	23.45	22.37	23.78	24.14
	4H	23.04	24.41	23.44	24.76	25.14	22.64	24.02	23.04	24.36	24.74
	6H	23.52	24.79	23.93	25.15	25.54	23.13	24.41	23.54	24.77	25.16
	8H	23.67	24.88	24.09	25.27	25.67	23.29	24.51	23.72	24.90	25.30
	12H	23.77	24.94	24.20	25.32	25.75	23.41	24.57	23.84	24.95	25.38
4H	2H	21.20	22.58	21.60	22.92	23.30	20.93	22.30	21.32	22.65	23.02
	3H	23.18	24.33	23.59	24.73	25.13	22.86	24.01	23.27	24.41	24.81
	4H	23.96	25.00	24.39	25.42	25.85	23.63	24.67	24.07	25.09	25.52
	6H	24.56	25.47	25.02	25.91	26.37	24.25	25.16	24.71	25.60	26.06
	8H	24.76	25.62	25.23	26.06	26.52	24.46	25.31	24.92	25.75	26.22
	12H	24.92	25.68	25.40	26.16	26.63	24.62	25.38	25.10	25.86	26.33
8H	4H	24.25	25.10	24.71	25.54	26.00	23.96	24.81	24.42	25.25	25.71
	6H	24.97	25.67	25.46	26.16	26.64	24.70	25.41	25.19	25.89	26.37
	8H	25.24	25.87	25.75	26.38	26.87	24.98	25.62	25.49	26.12	26.61
	12H	25.46	26.03	25.97	26.52	27.08	25.22	25.78	25.72	26.27	26.83
12H	4H	24.27	25.04	24.75	25.52	25.98	23.99	24.76	24.47	25.23	25.70
	6H	25.02	25.65	25.53	26.16	26.64	24.76	25.39	25.27	25.90	26.39
	8H	25.35	25.91	25.85	26.40	26.96	25.10	25.66	25.61	26.15	26.71