

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: P242606

Luminaire Tested: S124DRP-S1020D835-X4F0-XX-UDD-F-W

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-2024
Report Number: P242606
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-5)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S124DRP-S1020D835-X4F0-XX-UDD-F-W
Description: DEFINE 4 DIRECT RECESSED WITH SATIN FLUSH DIFFUSER
STANDARD LIGHT ENGINE
Light Source: (92) 3500K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

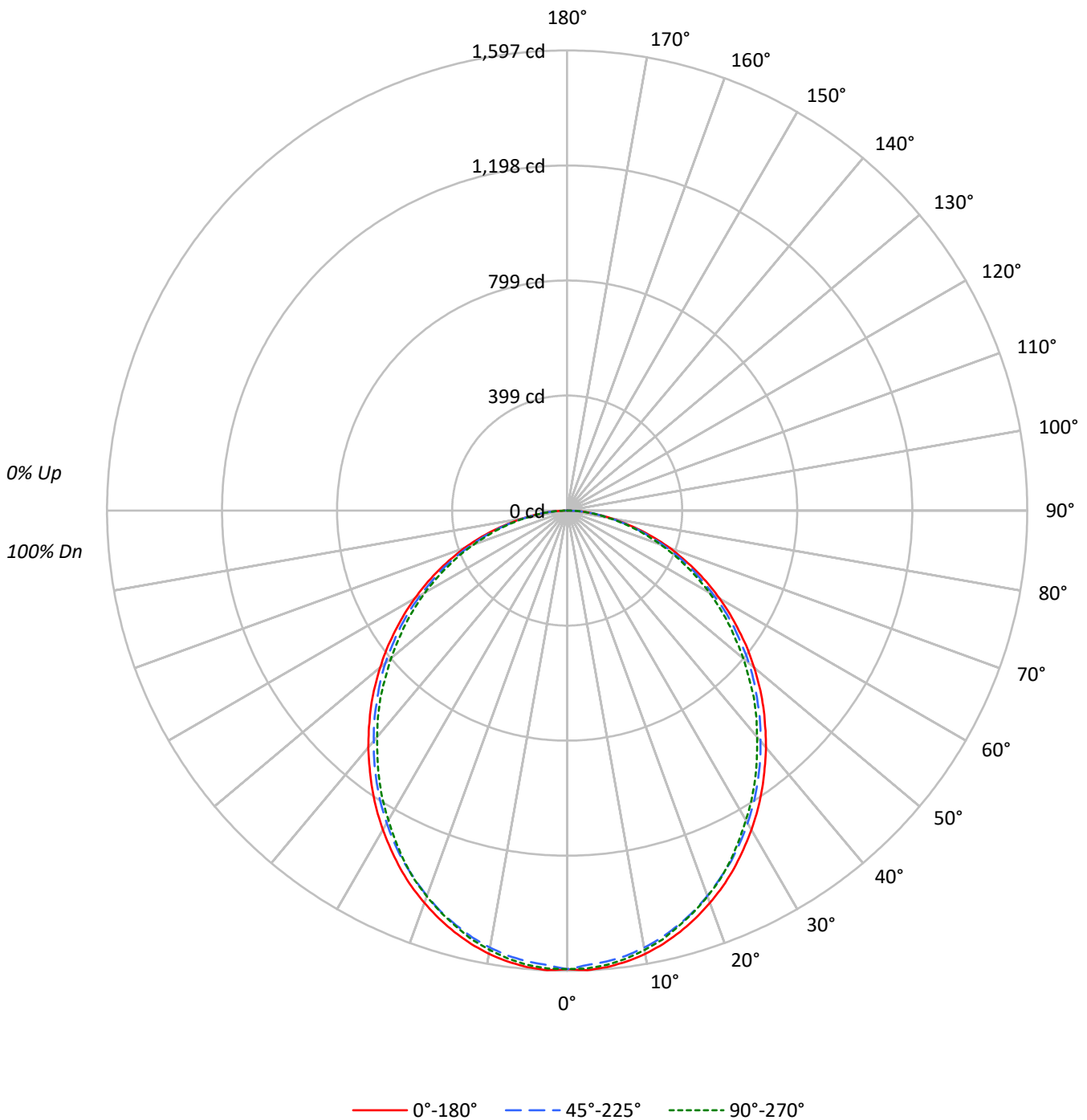
Lumens per Lamp: N/A
Luminaire Lumens: 4084.9 lumens
Efficiency: N/A
Efficacy: 117.4 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.17 / 1.29
Luminous Opening: Rectangular (W 0.31' x L: 3.88' x H: 0')
CIE Type: Direct

Input Watts (W): 34.8
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	47	41	52	46	41	39
7	66	52	44	38	64	52	43	37	50	43	37	49	42	37	47	41	37	35
8	61	48	39	34	60	47	39	34	46	39	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	28	39	32	27	38	32	27	37	31	27	25

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	14147	14147	14147
5°	14189	14019	14121
10°	14100	13905	13974
15°	13930	13707	13742
20°	13704	13463	13475
25°	13446	13183	13145
30°	13129	12854	12736
35°	12800	12509	12343
40°	12460	12119	11897
45°	12103	11735	11510
50°	11710	11392	11039
55°	11285	10949	10592
60°	10859	10452	10133
65°	10380	9978	9576
70°	9842	9346	8982
75°	9022	8583	8366
80°	8032	7704	7509
85°	7027	6762	6629

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 12103 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	150.0	3.7
10°-20°	422.6	10.3
20°-30°	622.0	15.2
30°-40°	723.0	17.7
40°-50°	722.9	17.7
50°-60°	632.3	15.5
60°-70°	469.4	11.5
70°-80°	266.3	6.5
80°-90°	76.3	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°	1194.6	29.2
0°-40°	1917.6	46.9
0°-60°	3272.9	80.1
0°-90°	4084.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4084.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1592	1592	1592	1592	1592	
5°	1590	1585	1571	1585	1583	151
15°	1514	1509	1490	1497	1493	427
25°	1371	1362	1344	1345	1340	631
35°	1180	1171	1153	1144	1138	738
45°	963	954	934	920	916	742
55°	728	724	706	691	684	652
65°	494	487	474	462	455	488
75°	263	256	250	245	244	279
85°	69	69	66	66	65	79
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1591.5	1591.5	1591.5	1591.5	1591.5
2.5°	1596.6	1592.8	1578.8	1591.5	1590.2
5°	1590.2	1585.1	1571.1	1585.1	1582.6
7.5°	1578.8	1573.7	1558.4	1569.8	1568.6
10°	1562.2	1557.1	1540.5	1550.7	1548.2
12.5°	1540.5	1535.4	1517.5	1529.0	1525.2
15°	1513.7	1508.6	1489.5	1497.1	1493.3
17.5°	1483.1	1476.7	1458.9	1464.0	1461.4
20°	1448.7	1442.3	1423.2	1427.0	1424.5
22.5°	1411.7	1402.8	1383.6	1391.3	1386.2
25°	1370.9	1362.0	1344.1	1345.4	1340.3
27.5°	1325.0	1316.1	1299.5	1296.9	1290.6
30°	1279.1	1268.9	1252.3	1247.2	1240.8
32.5°	1230.6	1221.7	1203.8	1197.5	1191.1
35°	1179.6	1170.7	1152.8	1143.9	1137.5
37.5°	1126.0	1118.4	1099.3	1090.3	1081.4
40°	1073.8	1063.6	1044.4	1031.7	1025.3
42.5°	1017.6	1012.5	990.9	975.6	971.7
45°	962.8	953.9	933.5	919.5	915.6
47.5°	905.4	899.1	879.9	864.6	854.4
50°	846.8	841.7	823.8	806.0	798.3
52.5°	789.4	783.0	763.9	748.6	738.4
55°	728.2	724.3	706.5	691.2	683.5
57.5°	670.8	667.0	649.1	633.8	626.1
60°	610.8	604.5	587.9	576.4	570.0
62.5°	552.2	547.1	529.2	519.0	512.6
65°	493.5	487.1	474.4	461.6	455.3
67.5°	433.6	428.5	415.7	403.0	401.7
70°	378.7	369.8	359.6	349.4	345.6
72.5°	320.1	311.2	303.5	295.9	292.0
75°	262.7	256.3	249.9	244.8	243.6
77.5°	206.6	204.0	197.7	196.4	192.6
80°	156.9	153.0	150.5	147.9	146.7
82.5°	108.4	107.1	107.1	105.8	104.6
85°	68.9	68.9	66.3	66.3	65.0
87.5°	33.2	31.9	30.6	30.6	30.6
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	20.50	22.12	20.87	22.43	22.75	20.13	21.74	20.49	22.06	22.37
	3H	22.26	23.72	22.64	24.05	24.41	21.84	23.30	22.22	23.62	23.99
	4H	22.92	24.29	23.32	24.64	25.02	22.48	23.86	22.88	24.20	24.58
	6H	23.39	24.67	23.80	25.03	25.42	22.96	24.23	23.37	24.60	24.99
	8H	23.54	24.76	23.97	25.15	25.55	23.12	24.33	23.54	24.72	25.12
	12H	23.65	24.81	24.08	25.19	25.62	23.23	24.39	23.66	24.77	25.20
4H	2H	21.08	22.45	21.47	22.80	23.17	20.78	22.15	21.18	22.50	22.87
	3H	23.05	24.21	23.46	24.60	25.00	22.70	23.86	23.11	24.25	24.65
	4H	23.84	24.88	24.27	25.29	25.73	23.47	24.51	23.90	24.93	25.36
	6H	24.44	25.35	24.89	25.79	26.25	24.08	24.98	24.53	25.43	25.88
	8H	24.64	25.49	25.10	25.93	26.40	24.28	25.13	24.74	25.57	26.04
	12H	24.79	25.55	25.27	26.03	26.50	24.44	25.20	24.92	25.68	26.14
8H	4H	24.11	24.96	24.57	25.41	25.87	23.79	24.64	24.25	25.08	25.55
	6H	24.84	25.54	25.33	26.03	26.51	24.52	25.22	25.01	25.71	26.19
	8H	25.11	25.74	25.62	26.25	26.73	24.80	25.43	25.31	25.94	26.42
	12H	25.33	25.90	25.84	26.39	26.95	25.03	25.59	25.54	26.08	26.64
12H	4H	24.14	24.91	24.62	25.38	25.85	23.83	24.59	24.31	25.07	25.54
	6H	24.88	25.52	25.39	26.03	26.51	24.58	25.21	25.09	25.72	26.20
	8H	25.21	25.77	25.72	26.26	26.83	24.92	25.48	25.42	25.97	26.53