

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: P242602

Luminaire Tested: S124DRP-S1020D830-X4F0-XX-UDD-F-W

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-2024
Report Number: P242602
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-S1020D830-X4F0-XX-UDD-F-W
Description: DEFINE 4 DIRECT RECESSED WITH SATIN FLUSH DIFFUSER
STANDARD LIGHT ENGINE
Light Source: (92) 3000K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

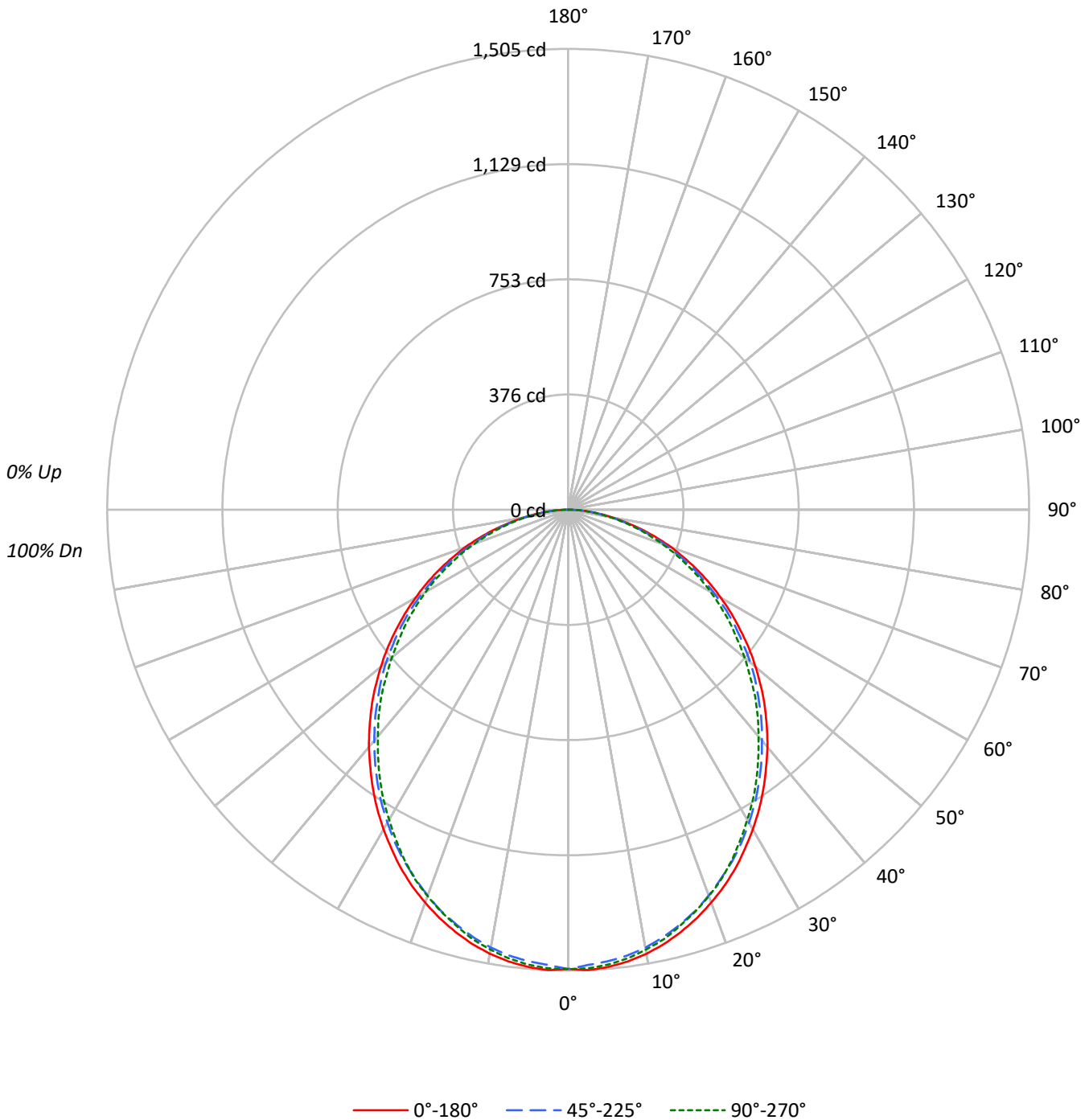
Lumens per Lamp: N/A
Luminaire Lumens: 3850.2 lumens
Efficiency: N/A
Efficacy: 110.6 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.17 / 1.29
Luminous Opening: Rectangular (W 0.31' x L: 3.88' x H: 0')
CIE Type: Direct

Input Watts (W): 34.8
Input Voltage (V): 120
Input Current (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	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°	13334	13334	13334
5°	13374	13213	13310
10°	13290	13106	13171
15°	13129	12919	12952
20°	12916	12689	12700
25°	12673	12426	12390
30°	12374	12115	12004
35°	12065	11791	11635
40°	11744	11423	11214
45°	11408	11060	10849
50°	11037	10738	10405
55°	10636	10320	9985
60°	10235	9851	9552
65°	9785	9404	9025
70°	9278	8810	8465
75°	8504	8091	7885
80°	7566	7259	7074
85°	6619	6374	6252

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 11408 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	141.4	3.7
10°-20°	398.3	10.3
20°-30°	586.2	15.2
30°-40°	681.5	17.7
40°-50°	681.4	17.7
50°-60°	596.0	15.5
60°-70°	442.5	11.5
70°-80°	251.1	6.5
80°-90°	71.9	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°	1126.0	29.2
0°-40°	1807.4	46.9
0°-60°	3084.8	80.1
0°-90°	3850.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3850.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1500	1500	1500	1500	1500	
5°	1499	1494	1481	1494	1492	142
15°	1427	1422	1404	1411	1408	402
25°	1292	1284	1267	1268	1263	595
35°	1112	1103	1087	1078	1072	695
45°	908	899	880	867	863	700
55°	686	683	666	652	644	615
65°	465	459	447	435	429	460
75°	248	242	236	231	230	263
85°	65	65	62	62	61	74
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1500.1	1500.1	1500.1	1500.1	1500.1
2.5°	1504.9	1501.3	1488.0	1500.1	1498.9
5°	1498.9	1494.1	1480.8	1494.1	1491.7
7.5°	1488.0	1483.2	1468.8	1479.6	1478.4
10°	1472.4	1467.6	1452.0	1461.6	1459.2
12.5°	1452.0	1447.2	1430.4	1441.2	1437.6
15°	1426.7	1421.9	1403.9	1411.1	1407.5
17.5°	1397.9	1391.9	1375.1	1379.9	1377.5
20°	1365.4	1359.4	1341.4	1345.0	1342.6
22.5°	1330.6	1322.2	1304.1	1311.4	1306.5
25°	1292.1	1283.7	1266.9	1268.1	1263.3
27.5°	1248.9	1240.4	1224.8	1222.4	1216.4
30°	1205.6	1196.0	1180.3	1175.5	1169.5
32.5°	1159.9	1151.5	1134.7	1128.7	1122.6
35°	1111.8	1103.4	1086.6	1078.2	1072.2
37.5°	1061.3	1054.1	1036.1	1027.7	1019.3
40°	1012.1	1002.4	984.4	972.4	966.4
42.5°	959.2	954.4	933.9	919.5	915.9
45°	907.5	899.1	879.8	866.6	863.0
47.5°	853.4	847.4	829.4	814.9	805.3
50°	798.1	793.3	776.5	759.6	752.4
52.5°	744.0	738.0	720.0	705.6	695.9
55°	686.3	682.7	665.9	651.5	644.3
57.5°	632.2	628.6	611.8	597.4	590.2
60°	575.7	569.7	554.1	543.3	537.3
62.5°	520.5	515.6	498.8	489.2	483.2
65°	465.2	459.2	447.1	435.1	429.1
67.5°	408.7	403.9	391.8	379.8	378.6
70°	357.0	348.6	339.0	329.3	325.7
72.5°	301.7	293.3	286.1	278.9	275.3
75°	247.6	241.6	235.6	230.8	229.6
77.5°	194.7	192.3	186.3	185.1	181.5
80°	147.8	144.2	141.8	139.4	138.2
82.5°	102.2	101.0	101.0	99.8	98.6
85°	64.9	64.9	62.5	62.5	61.3
87.5°	31.3	30.0	28.8	28.8	28.8
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	20.30	21.91	20.66	22.23	22.54	19.92	21.54	20.29	21.85	22.17
	3H	22.06	23.52	22.44	23.84	24.20	21.63	23.09	22.01	23.42	23.78
	4H	22.71	24.09	23.11	24.43	24.81	22.28	23.65	22.68	24.00	24.38
	6H	23.19	24.46	23.60	24.82	25.22	22.75	24.03	23.17	24.39	24.78
	8H	23.34	24.55	23.76	24.94	25.34	22.91	24.13	23.34	24.52	24.92
	12H	23.44	24.61	23.87	24.99	25.42	23.02	24.19	23.45	24.57	25.00
4H	2H	20.87	22.24	21.27	22.59	22.97	20.57	21.94	20.97	22.29	22.67
	3H	22.85	24.00	23.26	24.40	24.80	22.50	23.65	22.91	24.05	24.45
	4H	23.63	24.67	24.06	25.08	25.52	23.27	24.31	23.70	24.72	25.16
	6H	24.24	25.14	24.69	25.58	26.04	23.87	24.78	24.32	25.22	25.68
	8H	24.43	25.28	24.89	25.73	26.19	24.08	24.93	24.54	25.37	25.83
	12H	24.58	25.35	25.06	25.82	26.29	24.23	24.99	24.71	25.47	25.94
8H	4H	23.91	24.76	24.37	25.20	25.67	23.59	24.44	24.05	24.88	25.34
	6H	24.63	25.34	25.12	25.82	26.30	24.31	25.02	24.80	25.51	25.98
	8H	24.90	25.54	25.41	26.04	26.53	24.59	25.23	25.10	25.73	26.22
	12H	25.13	25.69	25.64	26.18	26.74	24.82	25.38	25.33	25.88	26.44
12H	4H	23.94	24.70	24.42	25.18	25.64	23.62	24.39	24.10	24.86	25.33
	6H	24.68	25.31	25.19	25.82	26.31	24.37	25.01	24.88	25.51	26.00
	8H	25.01	25.57	25.51	26.06	26.62	24.71	25.27	25.22	25.76	26.32