

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: P242440

Luminaire Tested: S123DRP-S1165D840-X4F0-XX-UDD-F-W

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-2024
Report Number: P242440
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-11)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S123DRP-S1165D840-X4F0-XX-UDD-F-W
Description: DEFINE 3 DIRECT RECESSED WITH SATIN FLUSH DIFFUSER
STANDARD LIGHT ENGINE
Light Source: (92) 4000K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

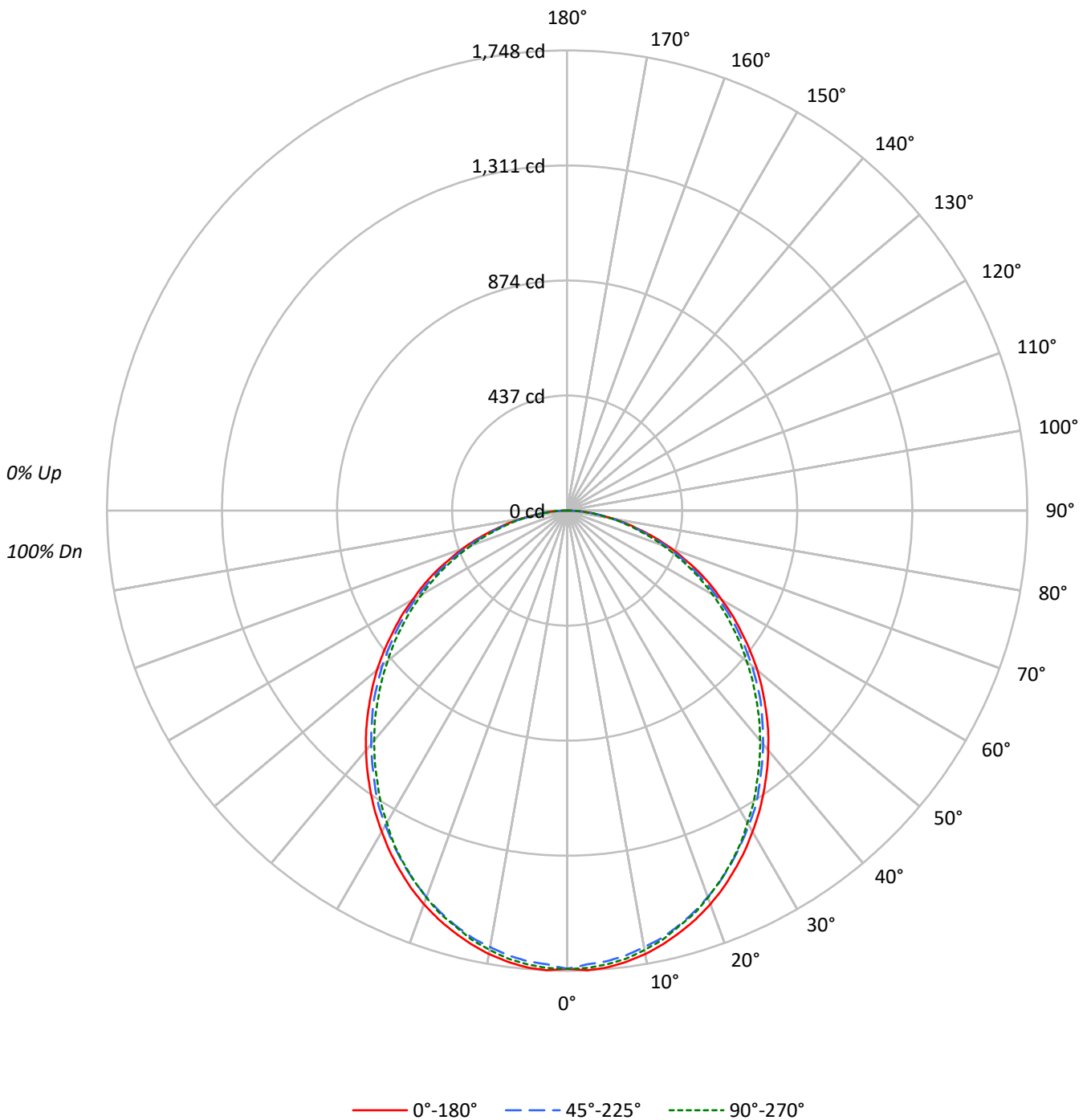
Lumens per Lamp: N/A
Luminaire Lumens: 4530.1 lumens
Efficiency: N/A
Efficacy: 110.2 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.18 / 1.3
Luminous Opening: Rectangular (W 0.23' x L: 3.88' x H: 0')
CIE Type: Direct

Input Watts (W): 41.1
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	109	104	100	96	106	102	98	95	98	94	92	94	91	89	90	88	86	84					84			
2	99	91	84	79	97	89	83	78	86	80	76	82	78	74	79	76	72	70					70			
3	91	80	72	66	88	79	71	65	76	69	64	73	67	63	70	66	62	59					59			
4	83	71	62	56	81	70	62	55	67	60	55	65	59	54	63	58	53	51					51			
5	76	64	55	48	74	63	54	48	60	53	47	58	52	47	57	51	46	44					44			
6	71	57	49	42	69	56	48	42	55	47	42	53	46	41	51	46	41	39					39			
7	66	52	43	37	64	51	43	37	50	42	37	48	42	37	47	41	36	34					34			
8	61	48	39	33	60	47	39	33	46	38	33	44	38	33	43	37	33	31					31			
9	57	44	36	30	56	43	35	30	42	35	30	41	34	30	40	34	30	28					28			
10	54	40	33	27	52	40	32	27	39	32	27	38	32	27	37	31	27	25					25			

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	21099	21099	21099
5°	21198	20906	21052
10°	21056	20725	20854
15°	20810	20491	20529
20°	20523	20156	20174
25°	20138	19757	19716
30°	19713	19315	19168
35°	19268	18847	18603
40°	18804	18330	18046
45°	18292	17857	17421
50°	17781	17273	16792
55°	17111	16669	16162
60°	16436	15964	15457
65°	15841	15195	14725
70°	14959	14321	13683
75°	13670	13179	12617
80°	12327	11804	11699
85°	10820	10403	9986

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 18292 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	164.1	3.6
10°-20°	463.4	10.2
20°-30°	684.3	15.1
30°-40°	799.2	17.6
40°-50°	803.5	17.7
50°-60°	705.8	15.6
60°-70°	525.7	11.6
70°-80°	299.1	6.6
80°-90°	85.0	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°	1311.8	29.0
0°-40°	2111.0	46.6
0°-60°	3620.3	79.9
0°-90°	4530.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4530.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1741	1741	1741	1741	1741	
5°	1742	1735	1718	1733	1730	165
15°	1658	1652	1633	1645	1636	468
25°	1506	1497	1477	1479	1474	694
35°	1302	1293	1274	1265	1257	815
45°	1067	1061	1042	1024	1016	824
55°	810	808	789	772	765	725
65°	552	545	530	518	513	545
75°	292	286	281	274	269	312
85°	78	75	75	72	72	89
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1740.7	1740.7	1740.7	1740.7	1740.7
2.5°	1748.1	1742.2	1725.7	1740.7	1739.2
5°	1742.2	1734.7	1718.2	1733.2	1730.2
7.5°	1728.7	1721.2	1704.7	1718.2	1716.7
10°	1710.7	1703.2	1683.8	1697.3	1694.3
12.5°	1686.8	1680.8	1662.8	1671.8	1670.3
15°	1658.3	1652.4	1632.9	1644.9	1635.9
17.5°	1626.9	1619.4	1600.0	1608.9	1606.0
20°	1591.0	1582.0	1562.6	1568.5	1564.0
22.5°	1550.6	1541.6	1522.1	1526.6	1520.6
25°	1505.7	1496.7	1477.2	1478.7	1474.2
27.5°	1459.3	1450.3	1429.3	1430.8	1426.4
30°	1408.4	1400.9	1380.0	1380.0	1369.5
32.5°	1357.5	1347.0	1332.1	1321.6	1317.1
35°	1302.1	1293.1	1273.7	1264.7	1257.2
37.5°	1246.7	1234.8	1215.3	1204.8	1200.4
40°	1188.4	1179.4	1158.4	1146.5	1140.5
42.5°	1130.0	1119.5	1098.6	1086.6	1080.6
45°	1067.1	1061.2	1041.7	1023.7	1016.3
47.5°	1005.8	996.8	978.8	960.9	954.9
50°	942.9	935.4	916.0	899.5	890.5
52.5°	877.1	872.6	851.6	838.1	829.2
55°	809.7	808.2	788.8	772.3	764.8
57.5°	746.9	740.9	725.9	710.9	702.0
60°	678.0	676.5	658.5	645.1	637.6
62.5°	616.6	612.1	594.2	580.7	576.2
65°	552.3	544.8	529.8	517.9	513.4
67.5°	483.4	477.4	465.5	455.0	449.0
70°	422.1	413.1	404.1	393.6	386.1
72.5°	357.7	351.7	341.2	332.3	329.3
75°	291.9	285.9	281.4	273.9	269.4
77.5°	233.5	230.5	224.5	218.5	218.5
80°	176.6	172.1	169.1	167.6	167.6
82.5°	121.2	121.2	121.2	118.2	116.7
85°	77.8	74.8	74.8	71.8	71.8
87.5°	38.9	34.4	32.9	31.4	31.4
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	21.95	23.57	22.32	23.89	24.20	21.64	23.26	22.00	23.57	23.88
	3H	23.72	25.18	24.10	25.51	25.87	23.35	24.82	23.73	25.14	25.50
	4H	24.38	25.76	24.78	26.10	26.48	23.99	25.37	24.39	25.72	26.09
	6H	24.87	26.14	25.28	26.51	26.90	24.48	25.75	24.89	26.12	26.51
	8H	25.02	26.24	25.45	26.63	27.03	24.64	25.85	25.06	26.24	26.64
	12H	25.13	26.30	25.56	26.68	27.11	24.74	25.91	25.17	26.29	26.72
4H	2H	22.53	23.91	22.93	24.26	24.63	22.28	23.66	22.68	24.01	24.38
	3H	24.52	25.68	24.93	26.08	26.48	24.22	25.37	24.63	25.77	26.17
	4H	25.31	26.35	25.74	26.77	27.20	24.98	26.02	25.41	26.44	26.87
	6H	25.93	26.84	26.38	27.28	27.74	25.59	26.50	26.05	26.94	27.40
	8H	26.13	26.98	26.59	27.42	27.89	25.80	26.65	26.26	27.09	27.56
	12H	26.28	27.05	26.76	27.52	27.99	25.95	26.72	26.43	27.19	27.66
8H	4H	25.59	26.45	26.05	26.89	27.35	25.30	26.16	25.76	26.60	27.06
	6H	26.33	27.04	26.82	27.53	28.00	26.04	26.75	26.53	27.23	27.71
	8H	26.60	27.24	27.11	27.75	28.23	26.32	26.95	26.83	27.46	27.95
	12H	26.83	27.40	27.34	27.89	28.45	26.54	27.10	27.05	27.59	28.16
12H	4H	25.62	26.39	26.10	26.86	27.33	25.34	26.11	25.82	26.58	27.05
	6H	26.38	27.02	26.89	27.53	28.01	26.10	26.74	26.61	27.24	27.73
	8H	26.71	27.28	27.22	27.77	28.33	26.44	27.00	26.94	27.49	28.05