

Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269



Scaled data based on original data using
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Test Report Prepared for
Cooper Lighting Solutions

Brand: NEO-RAY

Report Number: P931082

Luminaire Tested: DFN2DS-SQ4F0-060DS950-RLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P931082
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P333882)
Test Lab: INNOVATION CENTER
Issue Date: 11/20/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DS-SQ4F0-060DS950-RLL
Description: 4 foot, Square Define Geo, with Direct 1in Regressed Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

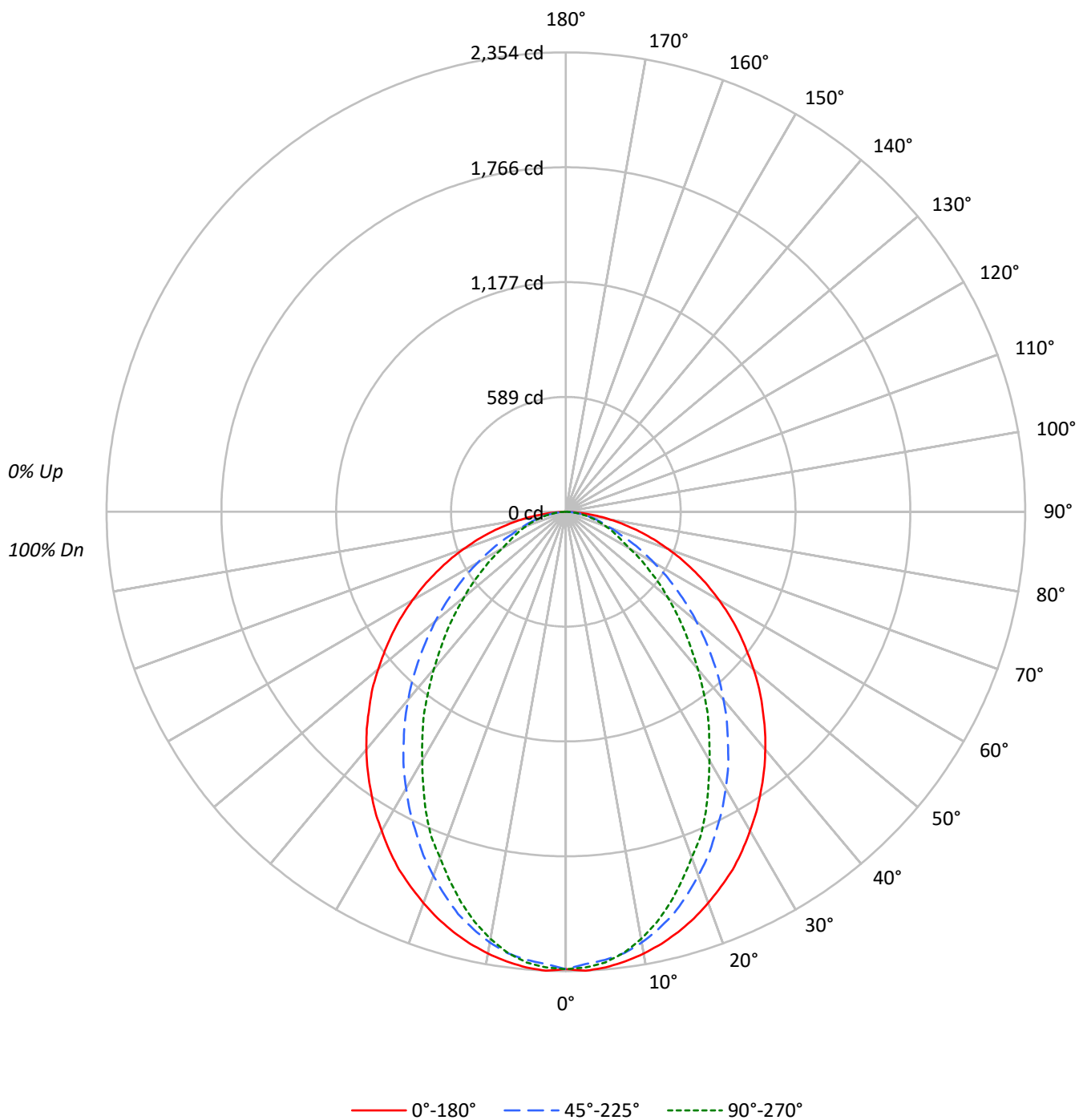
Lumens per Lamp: N/A
Luminaire Lumens: 4819.5 lumens
Efficiency: N/A
Efficacy: 83.2 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 3.92' x L: 3.92' x H: 0')
CIE Type: Direct

Input Watts (W): 57.9
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.946
Total Harmonic Distortion (THDi): 0.132
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
RW	70	50	30	10	70	50	30	10	50	30	10		50	30	10		50
RCR																	
0	119	119	119	119	116	116	116	116	111	111	111		106	106	106		102
1	110	106	102	98	107	103	100	97	99	96	94		95	93	91		92
2	101	94	87	82	98	92	86	81	88	83	79		85	81	78		82
3	93	83	76	70	90	82	75	69	79	73	68		76	71	67		74
4	86	75	66	60	83	73	66	60	71	64	59		69	63	58		66
5	79	67	59	53	77	66	58	52	64	57	52		62	56	51		60
6	74	61	53	47	72	60	52	46	58	51	46		57	50	46		55
7	68	56	47	42	67	55	47	42	53	46	41		52	46	41		51
8	64	51	43	38	62	51	43	37	49	42	37		48	42	37		47
9	60	47	39	34	59	47	39	34	46	39	34		44	38	34		44
10	56	44	36	31	55	43	36	31	42	36	31		41	35	31		41

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1644	1644	1644
5°	1651	1624	1633
10°	1638	1597	1584
15°	1619	1550	1505
20°	1593	1482	1408
25°	1566	1405	1314
30°	1529	1326	1192
35°	1493	1241	1086
40°	1457	1152	964
45°	1414	1052	852
50°	1371	952	743
55°	1326	843	638
60°	1274	729	530
65°	1215	613	482
70°	1144	504	444
75°	1058	460	414
80°	934	411	377
85°	733	324	324

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
Vertical Angle: 45°
Luminance: 1414 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	219.6	4.6
10°-20°	602.9	12.5
20°-30°	846.5	17.6
30°-40°	922.7	19.1
40°-50°	848.1	17.6
50°-60°	666.0	13.8
60°-70°	433.5	9.0
70°-80°	223.2	4.6
80°-90°	57.0	1.2
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°	1669.0	34.6
0°-40°	2591.7	53.8
0°-60°	4105.8	85.2
0°-90°	4819.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4819.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2343	2343	2343	2343	2343	
5°	2343	2333	2305	2324	2318	222
15°	2229	2205	2133	2093	2072	628
25°	2023	1955	1815	1728	1697	930
35°	1743	1635	1449	1315	1268	1091
45°	1425	1283	1060	910	859	1101
55°	1084	918	689	562	522	968
65°	732	560	369	297	290	725
75°	390	242	170	155	153	413
85°	91	47	40	40	40	109
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2343.4	2343.4	2343.4	2343.4	2343.4
2.5°	2354.0	2343.4	2320.0	2341.3	2337.1
5°	2343.4	2332.8	2305.1	2324.3	2318.0
7.5°	2324.3	2311.7	2282.0	2290.3	2279.7
10°	2298.8	2284.0	2241.7	2235.2	2222.5
12.5°	2267.1	2248.0	2190.6	2178.0	2154.6
15°	2228.9	2205.4	2133.4	2093.2	2072.0
17.5°	2184.4	2150.3	2061.2	2014.6	1980.7
20°	2133.4	2090.9	1985.0	1932.1	1885.3
22.5°	2078.3	2029.5	1906.4	1834.4	1802.7
25°	2023.2	1955.3	1815.3	1728.5	1696.6
27.5°	1957.6	1885.3	1730.5	1630.8	1582.0
30°	1887.5	1806.7	1637.1	1529.1	1471.7
32.5°	1819.6	1722.0	1548.3	1420.9	1367.8
35°	1743.3	1635.1	1448.6	1314.9	1268.1
37.5°	1669.1	1552.3	1355.2	1208.7	1155.8
40°	1590.5	1463.4	1257.5	1107.0	1051.9
42.5°	1510.0	1374.3	1160.1	1003.0	950.2
45°	1425.2	1282.9	1060.5	909.7	858.8
47.5°	1344.6	1194.1	965.0	814.3	767.7
50°	1255.5	1105.0	871.7	725.2	680.9
52.5°	1168.4	1009.4	782.6	642.6	602.3
55°	1083.6	918.3	689.2	562.1	521.7
57.5°	996.8	827.1	606.6	487.8	453.8
60°	907.7	738.0	519.6	411.5	377.5
62.5°	820.8	651.2	445.3	343.6	326.7
65°	731.7	559.8	369.0	297.0	290.5
67.5°	646.9	475.0	297.0	260.8	254.5
70°	557.7	392.4	245.9	224.8	216.2
72.5°	473.0	315.9	205.6	188.8	184.5
75°	390.2	241.6	169.6	154.8	152.8
77.5°	307.6	171.7	133.6	125.1	120.9
80°	231.1	123.0	101.7	93.4	93.4
82.5°	161.1	82.8	69.9	65.7	65.7
85°	91.1	46.6	40.3	40.3	40.3
87.5°	34.0	16.9	16.9	14.8	14.8
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	12.96	14.48	13.33	14.80	15.11	8.92	10.44	9.29	10.76	11.07
	3H	14.73	16.09	15.11	16.42	16.78	10.19	11.55	10.57	11.88	12.24
	4H	15.39	16.67	15.79	17.02	17.40	10.69	11.97	11.09	12.32	12.70
	6H	15.88	17.07	16.30	17.43	17.82	11.07	12.25	11.48	12.62	13.01
	8H	16.05	17.17	16.47	17.56	17.97	11.20	12.32	11.62	12.71	13.11
	12H	16.15	17.23	16.58	17.61	18.04	11.28	12.36	11.71	12.74	13.17
4H	2H	13.07	14.35	13.47	14.70	15.07	9.62	10.90	10.02	11.25	11.63
	3H	15.00	16.06	15.41	16.46	16.86	11.06	12.12	11.47	12.52	12.93
	4H	15.75	16.71	16.18	17.12	17.56	11.66	12.62	12.09	13.03	13.47
	6H	16.34	17.17	16.80	17.62	18.08	12.15	12.98	12.61	13.42	13.88
	8H	16.56	17.33	17.02	17.78	18.24	12.31	13.09	12.78	13.53	14.00
	12H	16.71	17.40	17.19	17.88	18.35	12.43	13.12	12.91	13.60	14.07
8H	4H	15.77	16.55	16.24	16.99	17.46	12.01	12.79	12.48	13.24	13.70
	6H	16.41	17.05	16.91	17.54	18.02	12.60	13.24	13.10	13.74	14.21
	8H	16.66	17.24	17.18	17.75	18.24	12.82	13.40	13.34	13.91	14.40
	12H	16.87	17.38	17.37	17.87	18.43	13.00	13.51	13.51	14.00	14.57
12H	4H	15.76	16.45	16.24	16.93	17.40	12.06	12.75	12.54	13.23	13.70
	6H	16.39	16.97	16.91	17.48	17.97	12.66	13.24	13.18	13.75	14.24
	8H	16.68	17.19	17.19	17.68	18.24	12.94	13.45	13.45	13.94	14.50