

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: P930943

Luminaire Tested: DFN2DS-SQ3F0-060DS840-FLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P930943
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P333812)
Test Lab: INNOVATION CENTER
Issue Date: 11/20/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DS-SQ3F0-060DS840-FLL
Description: 3 foot, Square Define Geo, with Direct Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

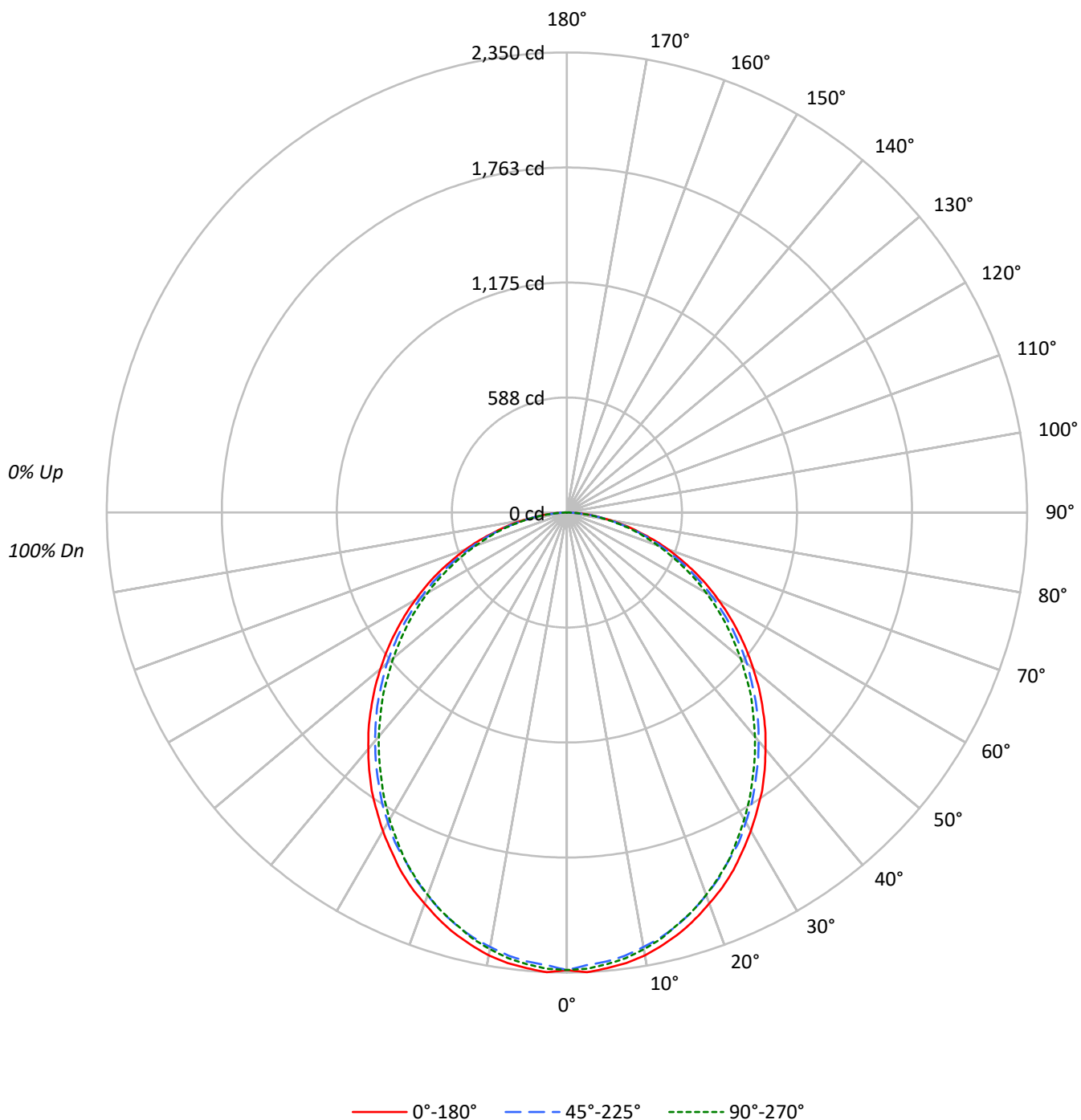
Lumens per Lamp: N/A
Luminaire Lumens: 5945.9 lumens
Efficiency: N/A
Efficacy: 100.4 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular (W 3.06' x L: 3.06' x H: 0')
CIE Type: Direct

Input Watts (W): 59.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9971
Total Harmonic Distortion (THDi): 0.049
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	109	104	100	96	106	102	98	95	98	95	92		94	91	89		90
2	99	91	85	79	97	89	83	78	86	81	76		83	78	74		80
3	91	80	72	66	88	79	71	65	76	69	64		73	68	63		71
4	83	71	63	56	81	70	62	56	68	61	55		65	59	54		63
5	77	64	55	49	75	63	55	48	61	53	48		59	52	47		57
6	71	58	49	43	69	57	48	42	55	48	42		53	47	42		52
7	66	52	44	38	64	52	43	38	50	43	37		49	42	37		47
8	61	48	40	34	60	47	39	34	46	39	33		45	38	33		44
9	57	44	36	30	56	43	36	30	42	35	30		41	35	30		40
10	54	41	33	28	53	40	33	28	39	32	27		38	32	27		37

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2678	2678	2678
5°	2688	2649	2665
10°	2672	2622	2636
15°	2639	2588	2586
20°	2592	2537	2535
25°	2545	2475	2475
30°	2486	2417	2396
35°	2430	2348	2313
40°	2360	2279	2235
45°	2291	2210	2156
50°	2215	2139	2063
55°	2137	2056	1980
60°	2049	1957	1885
65°	1956	1859	1773
70°	1837	1739	1657
75°	1671	1601	1562
80°	1483	1438	1364
85°	1209	1153	1035

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 2291 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	220.0	3.7
10°-20°	618.9	10.4
20°-30°	909.5	15.3
30°-40°	1056.3	17.8
40°-50°	1055.0	17.7
50°-60°	919.9	15.5
60°-70°	680.0	11.4
70°-80°	384.8	6.5
80°-90°	101.5	1.7
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°	1748.3	29.4
0°-40°	2804.6	47.2
0°-60°	4779.6	80.4
0°-90°	5945.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5945.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2337	2337	2337	2337	2337	
5°	2337	2328	2303	2321	2317	222
15°	2225	2211	2182	2191	2180	627
25°	2013	1996	1957	1962	1957	926
35°	1737	1715	1679	1665	1654	1085
45°	1414	1398	1364	1339	1330	1091
55°	1070	1056	1029	1002	991	956
65°	721	708	686	665	654	713
75°	377	373	362	348	353	403
85°	92	90	88	81	79	108
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2336.9	2336.9	2336.9	2336.9	2336.9
2.5°	2350.5	2339.3	2314.5	2336.9	2332.6
5°	2336.9	2328.1	2303.3	2321.2	2316.9
7.5°	2321.2	2307.9	2283.1	2301.2	2296.7
10°	2296.7	2281.0	2254.0	2271.9	2265.2
12.5°	2262.9	2249.4	2222.5	2233.7	2229.2
15°	2224.6	2211.3	2182.0	2191.1	2179.9
17.5°	2177.5	2164.2	2134.8	2145.9	2134.8
20°	2125.7	2112.4	2080.9	2087.6	2078.8
22.5°	2074.3	2054.0	2024.6	2024.6	2020.1
25°	2013.4	1995.6	1957.4	1961.7	1957.4
27.5°	1945.9	1930.2	1901.1	1894.5	1883.3
30°	1878.8	1860.6	1827.0	1820.3	1811.2
32.5°	1806.7	1793.4	1757.4	1743.7	1734.7
35°	1737.1	1714.7	1678.7	1665.1	1653.9
37.5°	1658.5	1638.1	1602.2	1586.4	1575.2
40°	1577.6	1559.5	1523.5	1503.5	1494.4
42.5°	1498.9	1480.8	1445.0	1422.4	1409.0
45°	1413.6	1397.8	1364.0	1339.4	1330.3
47.5°	1330.3	1314.6	1278.7	1253.9	1240.4
50°	1242.6	1231.4	1200.0	1168.5	1157.3
52.5°	1157.3	1141.5	1112.4	1087.7	1072.0
55°	1069.8	1056.2	1029.2	1002.3	991.1
57.5°	982.1	970.9	941.5	914.6	905.5
60°	894.3	885.5	854.1	829.2	822.5
62.5°	808.9	793.2	770.8	748.3	739.3
65°	721.4	707.9	685.5	665.2	654.0
67.5°	631.5	620.1	600.1	584.4	575.3
70°	548.3	539.3	519.0	503.3	494.5
72.5°	463.0	454.0	442.7	427.0	420.3
75°	377.4	373.2	361.7	348.3	352.9
77.5°	301.1	292.1	287.5	280.9	274.2
80°	224.8	222.4	217.9	211.2	206.7
82.5°	152.9	152.9	150.7	141.6	141.6
85°	92.0	89.9	87.7	80.8	78.7
87.5°	40.5	36.0	31.4	24.8	22.4
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	14.71	16.32	15.07	16.63	16.94	14.26	15.87	14.63	16.19	16.50
	3H	16.45	17.91	16.83	18.24	18.60	15.96	17.42	16.34	17.74	18.11
	4H	17.10	18.47	17.50	18.82	19.19	16.61	17.98	17.00	18.32	18.70
	6H	17.57	18.84	17.98	19.20	19.59	17.07	18.34	17.48	18.70	19.09
	8H	17.71	18.92	18.14	19.31	19.71	17.21	18.42	17.64	18.81	19.21
	12H	17.80	18.96	18.23	19.35	19.77	17.29	18.45	17.72	18.83	19.26
4H	2H	15.27	16.63	15.66	16.98	17.36	14.91	16.28	15.31	16.63	17.01
	3H	17.24	18.39	17.65	18.78	19.18	16.83	17.98	17.24	18.38	18.78
	4H	18.02	19.05	18.45	19.47	19.90	17.59	18.63	18.02	19.04	19.48
	6H	18.61	19.52	19.07	19.96	20.42	18.18	19.09	18.64	19.53	19.98
	8H	18.80	19.65	19.26	20.09	20.56	18.36	19.21	18.83	19.65	20.12
	12H	18.93	19.69	19.42	20.17	20.64	18.48	19.24	18.96	19.72	20.19
8H	4H	18.29	19.14	18.75	19.58	20.04	17.92	18.76	18.38	19.20	19.67
	6H	19.00	19.71	19.50	20.20	20.67	18.62	19.33	19.12	19.81	20.29
	8H	19.26	19.89	19.77	20.40	20.89	18.87	19.50	19.38	20.01	20.50
	12H	19.46	20.02	19.97	20.51	21.07	19.05	19.61	19.56	20.10	20.66
12H	4H	18.32	19.08	18.80	19.55	20.02	17.95	18.71	18.43	19.19	19.66
	6H	19.05	19.68	19.56	20.19	20.67	18.68	19.31	19.19	19.82	20.31
	8H	19.36	19.92	19.87	20.41	20.97	18.99	19.54	19.49	20.03	20.60