

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: P930325

Luminaire Tested: DFN2DS-HX4F0-070DS950-FLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P930325
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-HX4F0-070DS950-FLL
Description: 4 foot, Hexagon Define Geo, with Direct Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

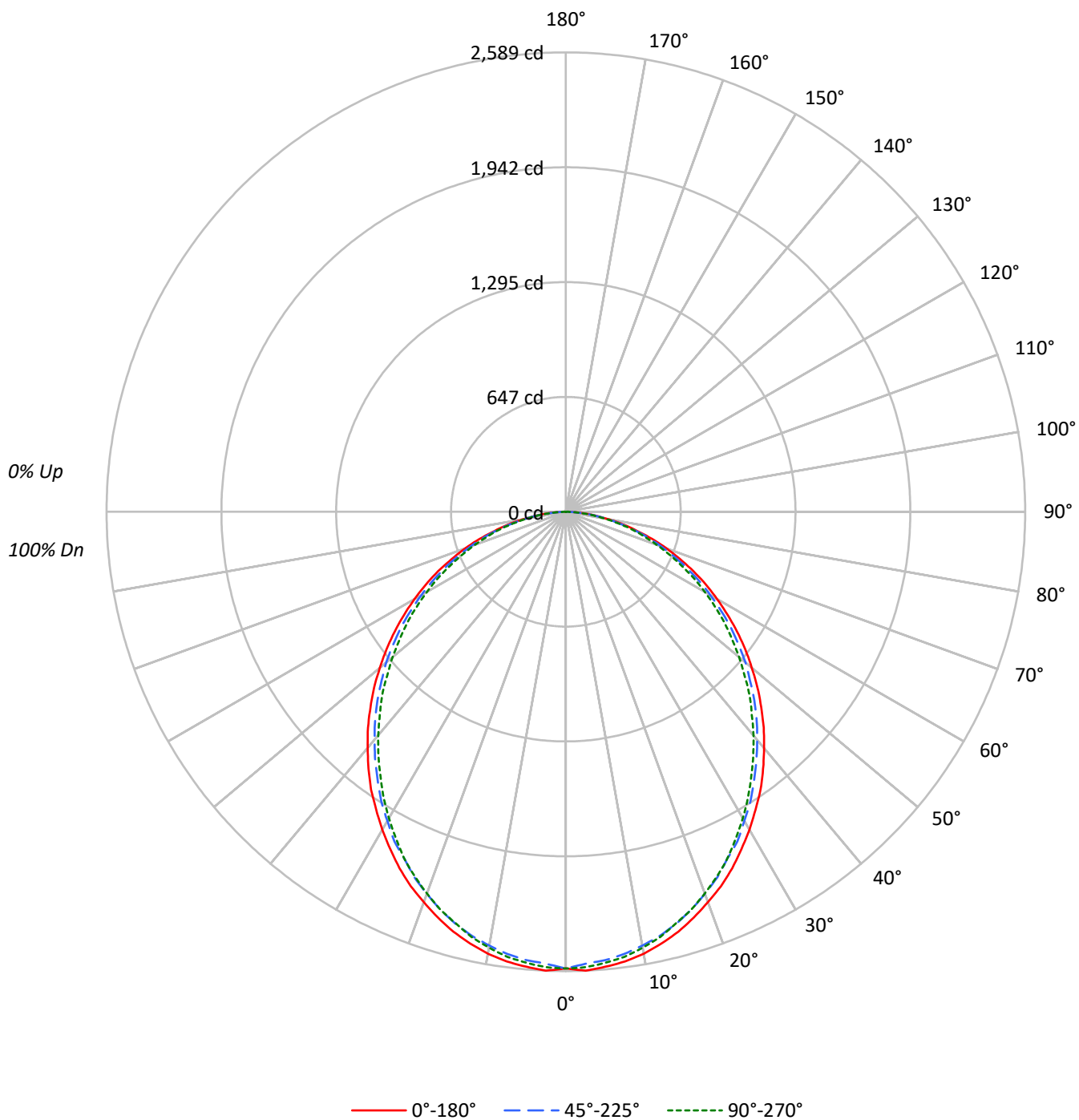
Lumens per Lamp: N/A
Luminaire Lumens: 6548.9 lumens
Efficiency: N/A
Efficacy: 92.1 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular (W 4.09' x L: 3.54' x H: 0')
CIE Type: Direct

Input Watts (W): 71.1
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9972
Total Harmonic Distortion (THDi): 0.128
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°	1914	1914	1914
5°	1921	1894	1905
10°	1910	1874	1884
15°	1886	1850	1848
20°	1853	1814	1812
25°	1819	1769	1769
30°	1777	1728	1713
35°	1737	1678	1654
40°	1687	1629	1598
45°	1637	1580	1541
50°	1583	1529	1474
55°	1527	1470	1415
60°	1465	1399	1347
65°	1398	1328	1267
70°	1313	1243	1184
75°	1194	1144	1117
80°	1060	1028	975
85°	865	825	740

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 1637 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	242.3	3.7
10°-20°	681.6	10.4
20°-30°	1001.7	15.3
30°-40°	1163.4	17.8
40°-50°	1162.0	17.7
50°-60°	1013.2	15.5
60°-70°	749.0	11.4
70°-80°	423.8	6.5
80°-90°	111.9	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°	1925.6	29.4
0°-40°	3089.0	47.2
0°-60°	5264.2	80.4
0°-90°	6548.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6548.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2574	2574	2574	2574	2574	
5°	2574	2564	2537	2557	2552	244
15°	2450	2436	2403	2413	2401	690
25°	2218	2198	2156	2161	2156	1020
35°	1913	1889	1849	1834	1822	1195
45°	1557	1540	1502	1475	1465	1202
55°	1178	1163	1134	1104	1092	1053
65°	795	780	755	733	720	786
75°	416	411	398	384	389	444
85°	101	99	97	89	87	119
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2573.9	2573.9	2573.9	2573.9	2573.9
2.5°	2588.9	2576.5	2549.2	2573.9	2569.2
5°	2573.9	2564.3	2536.9	2556.6	2551.9
7.5°	2556.6	2541.9	2514.6	2534.6	2529.6
10°	2529.6	2512.2	2482.5	2502.3	2494.9
12.5°	2492.2	2477.6	2447.9	2460.2	2455.2
15°	2450.3	2435.5	2403.2	2413.2	2400.9
17.5°	2398.2	2383.6	2351.3	2363.6	2351.3
20°	2341.2	2326.6	2291.9	2299.3	2289.5
22.5°	2284.5	2262.2	2229.9	2229.9	2224.9
25°	2217.6	2197.9	2155.9	2160.6	2155.9
27.5°	2143.3	2126.0	2093.9	2086.6	2074.2
30°	2069.3	2049.2	2012.3	2004.9	1994.9
32.5°	1989.9	1975.2	1935.5	1920.6	1910.6
35°	1913.2	1888.6	1848.9	1834.0	1821.6
37.5°	1826.6	1804.3	1764.6	1747.3	1734.9
40°	1737.6	1717.6	1677.9	1655.9	1645.9
42.5°	1650.9	1631.0	1591.6	1566.6	1551.9
45°	1556.9	1539.6	1502.3	1475.2	1465.2
47.5°	1465.2	1447.9	1408.2	1380.9	1366.3
50°	1368.6	1356.3	1321.6	1287.0	1274.6
52.5°	1274.6	1257.3	1225.3	1198.0	1180.6
55°	1178.2	1163.3	1133.6	1103.9	1091.6
57.5°	1081.6	1069.3	1036.9	1007.3	997.4
60°	985.0	975.2	940.7	913.3	906.0
62.5°	890.9	873.7	849.0	824.3	814.3
65°	794.7	779.6	755.0	732.7	720.3
67.5°	695.6	683.0	660.9	643.6	633.6
70°	603.9	594.0	571.6	554.3	544.6
72.5°	509.9	500.0	487.6	470.3	463.0
75°	415.7	411.0	398.3	383.7	388.7
77.5°	331.7	321.7	316.7	309.3	302.0
80°	247.6	245.0	240.0	232.7	227.7
82.5°	168.3	168.3	165.9	156.0	156.0
85°	101.4	99.0	96.7	89.0	86.7
87.5°	44.6	39.7	34.7	27.3	24.7
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	13.54	15.15	13.90	15.46	15.78	13.09	14.70	13.46	15.02	15.33
	3H	15.29	16.74	15.66	17.07	17.43	14.80	16.25	15.17	16.58	16.94
	4H	15.93	17.30	16.33	17.65	18.03	15.44	16.81	15.84	17.16	17.53
	6H	16.40	17.67	16.81	18.04	18.43	15.90	17.17	16.31	17.54	17.93
	8H	16.55	17.76	16.97	18.15	18.55	16.04	17.25	16.47	17.64	18.04
	12H	16.64	17.80	17.07	18.18	18.61	16.12	17.28	16.55	17.67	18.10
4H	2H	14.10	15.47	14.50	15.82	16.19	13.75	15.11	14.14	15.46	15.84
	3H	16.07	17.22	16.48	17.62	18.02	15.67	16.81	16.08	17.21	17.61
	4H	16.85	17.89	17.28	18.30	18.74	16.43	17.46	16.86	17.88	18.31
	6H	17.45	18.35	17.90	18.79	19.25	17.01	17.92	17.47	18.36	18.82
	8H	17.64	18.48	18.10	18.92	19.39	17.20	18.04	17.66	18.49	18.95
	12H	17.77	18.53	18.25	19.00	19.47	17.32	18.08	17.80	18.55	19.02
8H	4H	17.12	17.97	17.58	18.41	18.88	16.75	17.60	17.21	18.04	18.50
	6H	17.84	18.54	18.33	19.03	19.50	17.46	18.16	17.95	18.65	19.12
	8H	18.10	18.73	18.61	19.23	19.72	17.71	18.34	18.22	18.84	19.33
	12H	18.30	18.85	18.80	19.35	19.91	17.88	18.44	18.39	18.93	19.49
12H	4H	17.15	17.91	17.63	18.39	18.85	16.78	17.54	17.26	18.02	18.49
	6H	17.88	18.51	18.39	19.02	19.51	17.51	18.15	18.02	18.65	19.14
	8H	18.20	18.75	18.70	19.25	19.81	17.82	18.38	18.33	18.87	19.43