

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: P930353

Luminaire Tested: DFN2DS-HX4F0-090DS927-FLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P930353
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-HX4F0-090DS927-FLL
Description: 4 foot, Hexagon Define Geo, with Direct Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

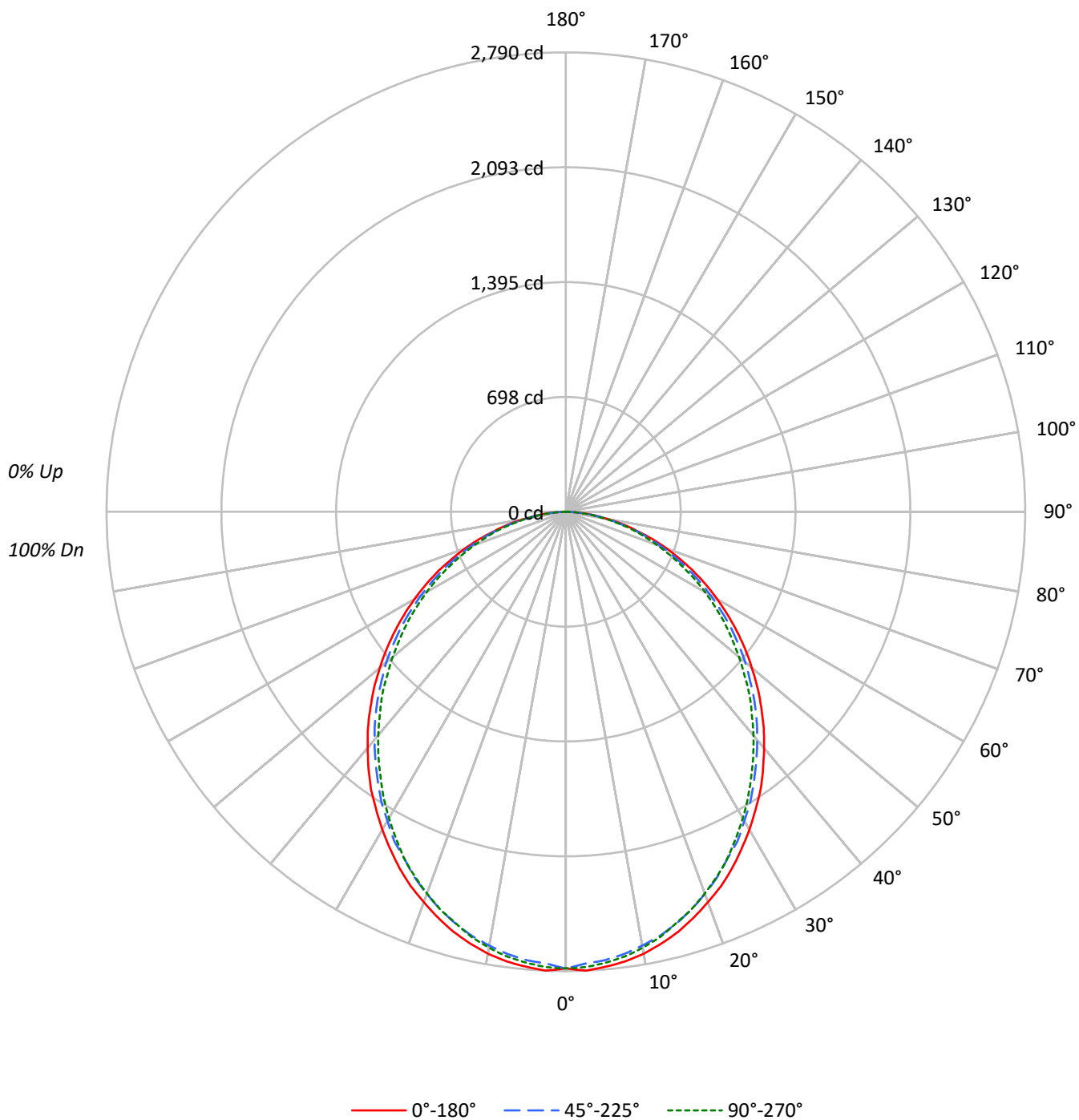
Lumens per Lamp: N/A
Luminaire Lumens: 7056.8 lumens
Efficiency: N/A
Efficacy: 75.5 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular (W 4.09' x L: 3.54' x H: 0')
CIE Type: Direct

Input Watts (W): 93.5
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9821
Total Harmonic Distortion (THDi): 0.08
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°	2062	2062	2062
5°	2070	2040	2052
10°	2058	2020	2030
15°	2032	1993	1992
20°	1996	1954	1952
25°	1960	1906	1906
30°	1914	1862	1846
35°	1871	1808	1782
40°	1817	1755	1722
45°	1764	1702	1660
50°	1706	1647	1589
55°	1646	1584	1525
60°	1578	1507	1452
65°	1506	1431	1366
70°	1415	1339	1276
75°	1287	1233	1203
80°	1142	1107	1051
85°	932	888	797

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
Vertical Angle: 45°
Luminance: 1764 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	261.0	3.7
10°-20°	734.5	10.4
20°-30°	1079.4	15.3
30°-40°	1253.7	17.8
40°-50°	1252.1	17.7
50°-60°	1091.8	15.5
60°-70°	807.1	11.4
70°-80°	456.6	6.5
80°-90°	120.5	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°	2074.9	29.4
0°-40°	3328.6	47.2
0°-60°	5672.5	80.4
0°-90°	7056.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7056.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2774	2774	2774	2774	2774	
5°	2774	2763	2734	2755	2750	263
15°	2640	2624	2590	2600	2587	744
25°	2390	2368	2323	2328	2323	1100
35°	2062	2035	1992	1976	1963	1287
45°	1678	1659	1619	1590	1579	1295
55°	1270	1254	1222	1190	1176	1135
65°	856	840	814	790	776	847
75°	448	443	429	413	419	478
85°	109	107	104	96	93	128
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2773.5	2773.5	2773.5	2773.5	2773.5
2.5°	2789.7	2776.4	2747.0	2773.5	2768.4
5°	2773.5	2763.1	2733.7	2754.9	2749.7
7.5°	2754.9	2739.1	2709.6	2731.1	2725.7
10°	2725.7	2707.1	2675.1	2696.3	2688.4
12.5°	2685.5	2669.7	2637.8	2651.0	2645.7
15°	2640.3	2624.5	2589.6	2600.4	2587.1
17.5°	2584.2	2568.4	2533.6	2546.9	2533.6
20°	2522.8	2507.0	2469.6	2477.5	2467.1
22.5°	2461.7	2437.7	2402.8	2402.8	2397.5
25°	2389.5	2368.3	2323.1	2328.2	2323.1
27.5°	2309.5	2290.8	2256.3	2248.4	2235.1
30°	2229.7	2208.2	2168.3	2160.3	2149.6
32.5°	2144.3	2128.4	2085.7	2069.6	2058.8
35°	2061.7	2035.0	1992.3	1976.2	1962.9
37.5°	1968.3	1944.2	1901.4	1882.8	1869.5
40°	1872.3	1850.8	1808.1	1784.3	1773.6
42.5°	1778.9	1757.4	1715.0	1688.1	1672.3
45°	1677.6	1659.0	1618.8	1589.6	1578.9
47.5°	1578.9	1560.2	1517.5	1488.1	1472.2
50°	1474.8	1461.5	1424.1	1386.8	1373.5
52.5°	1373.5	1354.8	1320.3	1290.9	1272.2
55°	1269.7	1253.5	1221.5	1189.6	1176.3
57.5°	1165.5	1152.2	1117.4	1085.4	1074.7
60°	1061.4	1050.9	1013.5	984.1	976.2
62.5°	960.1	941.4	914.8	888.2	877.5
65°	856.2	840.1	813.5	789.5	776.2
67.5°	749.5	736.0	712.2	693.6	682.8
70°	650.8	640.0	616.0	597.3	586.9
72.5°	549.5	538.7	525.4	506.8	498.9
75°	448.0	442.8	429.3	413.4	418.8
77.5°	357.4	346.7	341.3	333.4	325.4
80°	266.8	264.0	258.6	250.7	245.4
82.5°	181.4	181.4	178.8	168.1	168.1
85°	109.2	106.7	104.1	95.9	93.4
87.5°	48.1	42.7	37.4	29.5	26.6
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	13.80	15.41	14.16	15.72	16.04	13.35	14.96	13.72	15.28	15.59
	3H	15.55	17.00	15.92	17.33	17.69	15.06	16.51	15.43	16.84	17.20
	4H	16.19	17.56	16.59	17.91	18.29	15.70	17.07	16.10	17.42	17.79
	6H	16.66	17.93	17.07	18.30	18.69	16.16	17.43	16.57	17.79	18.19
	8H	16.81	18.02	17.23	18.41	18.81	16.30	17.51	16.73	17.90	18.30
	12H	16.90	18.06	17.33	18.44	18.87	16.38	17.54	16.81	17.93	18.35
4H	2H	14.36	15.73	14.76	16.07	16.45	14.00	15.37	14.40	15.72	16.10
	3H	16.33	17.48	16.74	17.88	18.28	15.93	17.07	16.34	17.47	17.87
	4H	17.11	18.15	17.54	18.56	19.00	16.69	17.72	17.12	18.14	18.57
	6H	17.71	18.61	18.16	19.05	19.51	17.27	18.18	17.73	18.62	19.08
	8H	17.90	18.74	18.36	19.18	19.65	17.46	18.30	17.92	18.75	19.21
	12H	18.03	18.79	18.51	19.26	19.73	17.58	18.34	18.06	18.81	19.28
8H	4H	17.38	18.23	17.84	18.67	19.14	17.01	17.86	17.47	18.30	18.76
	6H	18.10	18.80	18.59	19.29	19.76	17.72	18.42	18.21	18.91	19.38
	8H	18.36	18.99	18.87	19.49	19.98	17.96	18.60	18.47	19.10	19.59
	12H	18.56	19.11	19.06	19.60	20.17	18.14	18.70	18.65	19.19	19.75
12H	4H	17.41	18.17	17.89	18.64	19.11	17.04	17.80	17.52	18.28	18.75
	6H	18.14	18.77	18.65	19.28	19.77	17.77	18.41	18.28	18.91	19.40
	8H	18.46	19.01	18.96	19.50	20.07	18.08	18.64	18.59	19.13	19.69