

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: P930328

Luminaire Tested: DFN2DS-HX4F0-080DS830-RLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P930328
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-HX4F0-080DS830-RLL
Description: 4 foot, Hexagon Define Geo, with Direct 1in Regressed Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

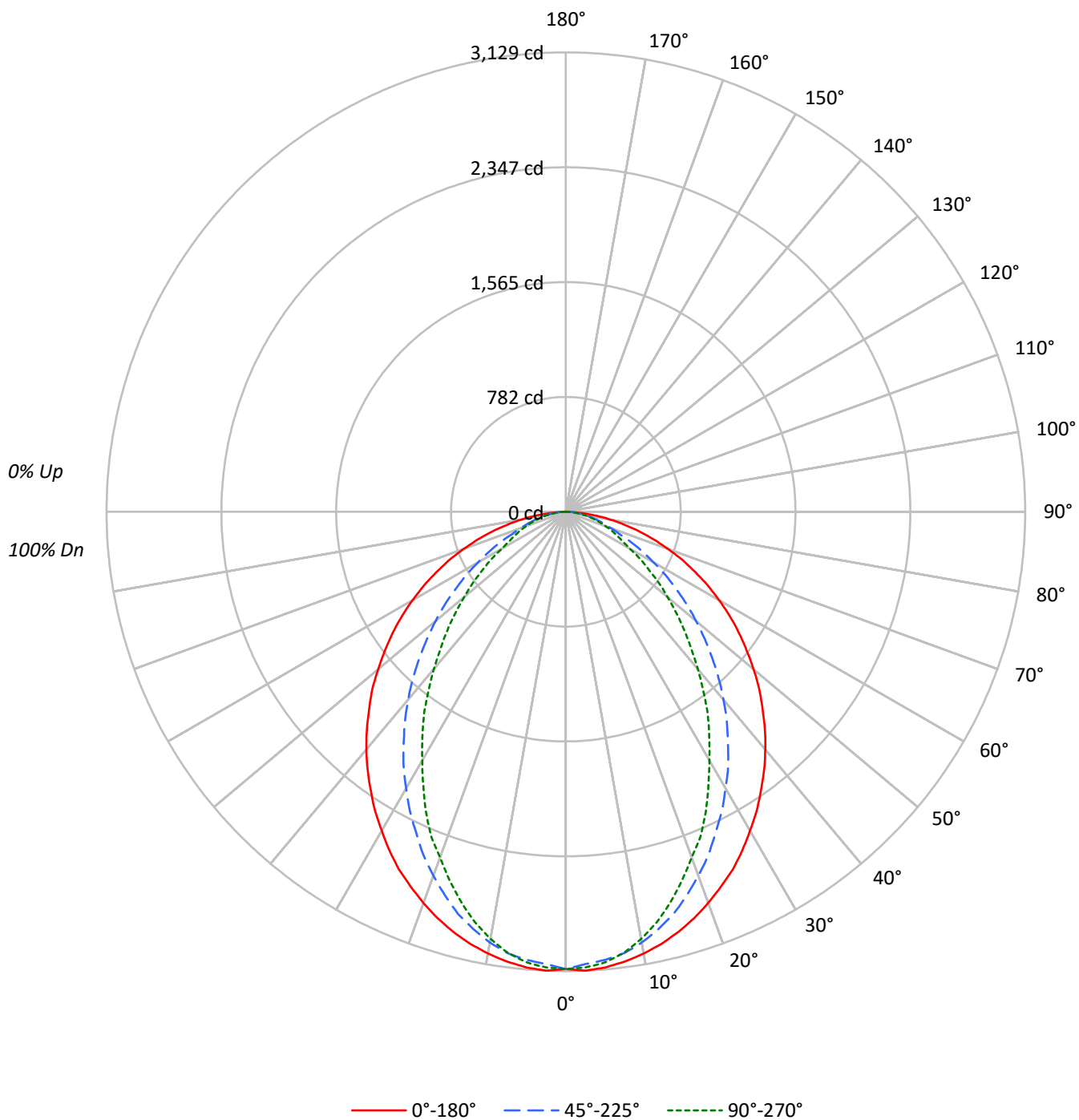
Lumens per Lamp: N/A
Luminaire Lumens: 6405.6 lumens
Efficiency: N/A
Efficacy: 78.6 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 4.09' x L: 3.54' x H: 0')
CIE Type: Direct

Input Watts (W): 81.5
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9613
Total Harmonic Distortion (THDi): 0.083
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°	2316	2316	2316
5°	2325	2287	2300
10°	2307	2250	2230
15°	2280	2183	2120
20°	2244	2088	1983
25°	2206	1979	1850
30°	2154	1868	1679
35°	2103	1748	1530
40°	2052	1622	1357
45°	1992	1482	1200
50°	1930	1340	1047
55°	1867	1187	899
60°	1794	1027	746
65°	1711	863	679
70°	1612	711	625
75°	1490	648	583
80°	1315	579	531
85°	1033	456	456

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
Vertical Angle: 45°
Luminance: 1992 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	291.9	4.6
10°-20°	801.3	12.5
20°-30°	1125.1	17.6
30°-40°	1226.4	19.1
40°-50°	1127.2	17.6
50°-60°	885.2	13.8
60°-70°	576.2	9.0
70°-80°	296.6	4.6
80°-90°	75.7	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°	2218.3	34.6
0°-40°	3444.7	53.8
0°-60°	5457.1	85.2
0°-90°	6405.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6405.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3115	3115	3115	3115	3115	
5°	3115	3101	3064	3089	3081	295
15°	2962	2931	2836	2782	2754	835
25°	2689	2599	2413	2297	2255	1237
35°	2317	2173	1925	1748	1685	1450
45°	1894	1705	1409	1209	1142	1463
55°	1440	1220	916	747	694	1287
65°	972	744	490	395	386	964
75°	519	321	226	206	203	548
85°	121	62	54	54	54	145
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3114.6	3114.6	3114.6	3114.6	3114.6
2.5°	3128.7	3114.6	3083.5	3111.9	3106.2
5°	3114.6	3100.6	3063.8	3089.2	3080.8
7.5°	3089.2	3072.4	3033.0	3044.1	3029.9
10°	3055.4	3035.7	2979.5	2970.8	2954.0
12.5°	3013.3	2987.8	2911.5	2894.8	2863.7
15°	2962.4	2931.3	2835.6	2782.1	2753.9
17.5°	2903.1	2858.0	2739.6	2677.7	2632.5
20°	2835.6	2779.1	2638.3	2568.0	2505.7
22.5°	2762.3	2697.4	2533.9	2438.2	2396.0
25°	2689.0	2598.8	2412.7	2297.3	2254.9
27.5°	2601.7	2505.7	2300.0	2167.5	2102.6
30°	2508.7	2401.3	2175.9	2032.4	1956.1
32.5°	2418.4	2288.7	2057.8	1888.5	1818.0
35°	2317.0	2173.2	1925.3	1747.7	1685.4
37.5°	2218.3	2063.2	1801.2	1606.5	1536.2
40°	2114.0	1945.0	1671.4	1471.3	1398.0
42.5°	2006.9	1826.6	1541.9	1333.2	1262.8
45°	1894.2	1705.2	1409.4	1209.1	1141.5
47.5°	1787.2	1587.1	1282.6	1082.3	1020.4
50°	1668.7	1468.7	1158.6	963.9	904.9
52.5°	1553.0	1341.5	1040.1	854.1	800.6
55°	1440.2	1220.5	916.0	747.0	693.5
57.5°	1324.8	1099.3	806.3	648.4	603.2
60°	1206.3	980.9	690.5	546.9	501.8
62.5°	1090.9	865.4	591.9	456.7	434.3
65°	972.5	744.0	490.4	394.8	386.0
67.5°	859.8	631.3	394.8	346.6	338.3
70°	741.4	521.6	326.9	298.7	287.4
72.5°	628.6	419.8	273.4	250.9	245.2
75°	518.6	321.2	225.5	205.7	203.1
77.5°	408.8	228.2	177.7	166.3	160.6
80°	307.1	163.6	135.2	124.1	124.1
82.5°	214.1	110.0	93.0	87.3	87.3
85°	121.1	61.9	53.5	53.5	53.5
87.5°	45.1	22.4	22.4	19.8	19.8
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	14.15	15.67	14.52	15.99	16.30	10.11	11.64	10.48	11.95	12.26
	3H	15.92	17.28	16.30	17.61	17.97	11.38	12.74	11.76	13.07	13.43
	4H	16.58	17.86	16.98	18.21	18.59	11.88	13.16	12.28	13.51	13.89
	6H	17.07	18.26	17.49	18.62	19.01	12.26	13.44	12.67	13.81	14.20
	8H	17.24	18.36	17.66	18.75	19.16	12.39	13.51	12.81	13.90	14.30
	12H	17.34	18.42	17.77	18.80	19.23	12.47	13.54	12.90	13.93	14.36
4H	2H	14.26	15.54	14.66	15.89	16.26	10.81	12.09	11.21	12.44	12.82
	3H	16.19	17.25	16.60	17.65	18.05	12.25	13.31	12.66	13.71	14.12
	4H	16.94	17.90	17.37	18.31	18.75	12.85	13.81	13.28	14.22	14.66
	6H	17.53	18.36	17.99	18.81	19.27	13.34	14.17	13.80	14.61	15.07
	8H	17.75	18.52	18.21	18.97	19.43	13.50	14.28	13.96	14.72	15.19
	12H	17.90	18.59	18.38	19.07	19.54	13.62	14.31	14.10	14.79	15.26
8H	4H	16.96	17.74	17.43	18.18	18.65	13.21	13.98	13.67	14.43	14.89
	6H	17.60	18.24	18.10	18.73	19.21	13.79	14.43	14.29	14.93	15.40
	8H	17.85	18.43	18.37	18.94	19.43	14.01	14.59	14.53	15.10	15.59
	12H	18.06	18.57	18.56	19.06	19.62	14.19	14.70	14.70	15.19	15.76
12H	4H	16.95	17.64	17.43	18.12	18.59	13.25	13.94	13.73	14.42	14.89
	6H	17.58	18.16	18.10	18.67	19.16	13.86	14.43	14.37	14.94	15.43
	8H	17.87	18.38	18.38	18.87	19.43	14.13	14.64	14.64	15.13	15.69