

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: P930183

Luminaire Tested: DFN2DS-HX3F0-060DS830-FLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P930183
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-HX3F0-060DS830-FLL
Description: 3 foot, Hexagon Define Geo, with Direct Frosted Lens
Light Source: -
Ballast/Driver: -

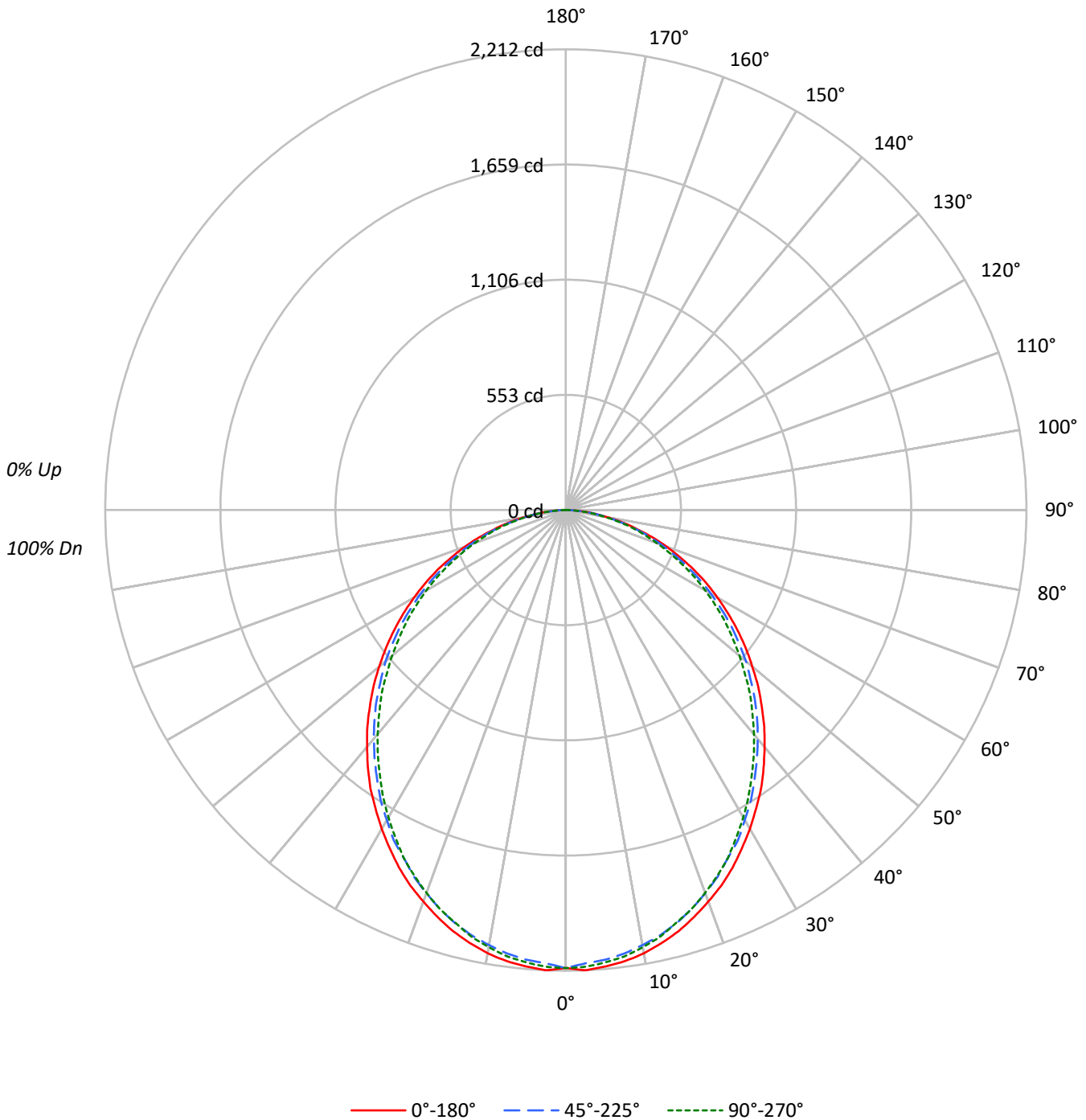
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5595.4 lumens
Efficiency: N/A
Efficacy: 91.6 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular (W 3.28' x L: 2.84' x H: 0')
CIE Type: Direct

Input Watts (W): 61.1
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9933
Total Harmonic Distortion (THDi): 0.066
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			0	
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0
RCR																					
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100	100	100	100
1	109	104	100	96	106	102	98	95	98	95	92	94	91	89	90	88	86	84	84	84	84
2	99	91	85	79	97	89	83	78	86	81	76	83	78	74	80	76	73	71	71	71	71
3	91	80	72	66	88	79	71	65	76	69	64	73	68	63	71	66	62	60	60	60	60
4	83	71	63	56	81	70	62	56	68	61	55	65	59	54	63	58	54	51	51	51	51
5	77	64	55	49	75	63	55	48	61	53	48	59	52	47	57	51	47	45	45	45	45
6	71	58	49	43	69	57	48	42	55	48	42	53	47	42	52	46	41	39	39	39	39
7	66	52	44	38	64	52	43	38	50	43	37	49	42	37	47	41	37	35	35	35	35
8	61	48	40	34	60	47	39	34	46	39	33	45	38	33	44	38	33	31	31	31	31
9	57	44	36	30	56	43	36	30	42	35	30	41	35	30	40	34	30	28	28	28	28
10	54	41	33	28	53	40	33	28	39	32	27	38	32	27	37	32	27	26	26	26	26

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2547	2547	2547
5°	2557	2520	2535
10°	2542	2495	2507
15°	2511	2462	2460
20°	2466	2414	2412
25°	2422	2354	2354
30°	2365	2300	2280
35°	2312	2234	2201
40°	2245	2168	2126
45°	2179	2103	2051
50°	2107	2035	1962
55°	2033	1956	1884
60°	1950	1862	1793
65°	1861	1768	1687
70°	1748	1654	1576
75°	1589	1523	1486
80°	1412	1368	1297
85°	1151	1096	984

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 2179 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	207.0	3.7
10°-20°	582.4	10.4
20°-30°	855.9	15.3
30°-40°	994.1	17.8
40°-50°	992.8	17.7
50°-60°	865.7	15.5
60°-70°	639.9	11.4
70°-80°	362.1	6.5
80°-90°	95.6	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°	1645.3	29.4
0°-40°	2639.3	47.2
0°-60°	4497.9	80.4
0°-90°	5595.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5595.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2199	2199	2199	2199	2199	
5°	2199	2191	2168	2184	2180	209
15°	2094	2081	2053	2062	2051	590
25°	1895	1878	1842	1846	1842	872
35°	1635	1614	1580	1567	1556	1021
45°	1330	1315	1284	1260	1252	1027
55°	1007	994	969	943	933	900
65°	679	666	645	626	615	671
75°	355	351	340	328	332	379
85°	87	85	82	76	74	102
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2199.2	2199.2	2199.2	2199.2	2199.2
2.5°	2212.0	2201.5	2178.1	2199.2	2195.1
5°	2199.2	2190.9	2167.5	2184.4	2180.4
7.5°	2184.4	2171.9	2148.5	2165.6	2161.3
10°	2161.3	2146.5	2121.1	2138.0	2131.7
12.5°	2129.5	2116.9	2091.5	2102.1	2097.8
15°	2093.5	2081.0	2053.4	2061.9	2051.4
17.5°	2049.1	2036.6	2009.0	2019.5	2009.0
20°	2000.4	1987.9	1958.2	1964.5	1956.3
22.5°	1952.0	1932.9	1905.3	1905.3	1901.1
25°	1894.7	1878.0	1842.0	1846.0	1842.0
27.5°	1831.2	1816.5	1789.0	1782.8	1772.3
30°	1768.0	1750.9	1719.3	1713.0	1704.5
32.5°	1700.2	1687.7	1653.8	1641.0	1632.5
35°	1634.7	1613.6	1579.7	1566.9	1556.4
37.5°	1560.7	1541.6	1507.8	1492.9	1482.3
40°	1484.6	1467.5	1433.7	1414.9	1406.3
42.5°	1410.6	1393.5	1359.9	1338.6	1326.0
45°	1330.3	1315.4	1283.6	1260.5	1251.9
47.5°	1251.9	1237.1	1203.3	1179.9	1167.3
50°	1169.4	1158.8	1129.3	1099.6	1089.0
52.5°	1089.0	1074.3	1046.8	1023.6	1008.8
55°	1006.7	993.9	968.6	943.2	932.7
57.5°	924.2	913.6	886.0	860.7	852.1
60°	841.6	833.3	803.7	780.4	774.0
62.5°	761.2	746.4	725.3	704.2	695.8
65°	678.9	666.2	645.1	626.0	615.4
67.5°	594.3	583.6	564.7	549.9	541.4
70°	516.0	507.5	488.4	473.6	465.3
72.5°	435.7	427.2	416.6	401.9	395.5
75°	355.1	351.2	340.3	327.8	332.1
77.5°	283.4	274.9	270.5	264.3	258.0
80°	211.6	209.3	205.1	198.8	194.5
82.5°	143.8	143.8	141.8	133.3	133.3
85°	86.6	84.6	82.5	76.0	74.0
87.5°	38.2	33.9	29.6	23.4	21.1
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	14.53	16.14	14.90	16.46	16.77	14.09	15.70	14.45	16.01	16.33
	3H	16.28	17.74	16.66	18.06	18.42	15.79	17.24	16.17	17.57	17.93
	4H	16.93	18.30	17.33	18.64	19.02	16.43	17.80	16.83	18.15	18.53
	6H	17.40	18.67	17.81	19.03	19.42	16.90	18.16	17.31	18.53	18.92
	8H	17.54	18.75	17.96	19.14	19.54	17.04	18.25	17.46	18.64	19.04
	12H	17.63	18.79	18.06	19.17	19.60	17.12	18.28	17.55	18.66	19.09
4H	2H	15.09	16.46	15.49	16.81	17.18	14.74	16.11	15.14	16.46	16.83
	3H	17.07	18.21	17.48	18.61	19.01	16.66	17.81	17.07	18.20	18.60
	4H	17.84	18.88	18.27	19.29	19.73	17.42	18.46	17.85	18.87	19.31
	6H	18.44	19.34	18.89	19.79	20.24	18.01	18.91	18.46	19.35	19.81
	8H	18.63	19.48	19.09	19.92	20.38	18.19	19.04	18.65	19.48	19.95
	12H	18.76	19.52	19.24	20.00	20.47	18.31	19.07	18.79	19.54	20.01
8H	4H	18.12	18.96	18.58	19.41	19.87	17.74	18.59	18.20	19.03	19.50
	6H	18.83	19.53	19.32	20.02	20.50	18.45	19.15	18.94	19.64	20.12
	8H	19.09	19.72	19.60	20.23	20.71	18.70	19.33	19.21	19.84	20.32
	12H	19.29	19.85	19.80	20.34	20.90	18.88	19.43	19.38	19.93	20.49
12H	4H	18.14	18.90	18.62	19.38	19.85	17.78	18.54	18.26	19.01	19.48
	6H	18.88	19.51	19.39	20.02	20.50	18.51	19.14	19.02	19.65	20.13
	8H	19.19	19.75	19.70	20.24	20.80	18.81	19.37	19.32	19.86	20.42