

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: P930193

Luminaire Tested: DFN2DS-HX3F0-060DS930-FLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P930193
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-HX3F0-060DS930-FLL
Description: 3 foot, Hexagon Define Geo, with Direct Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

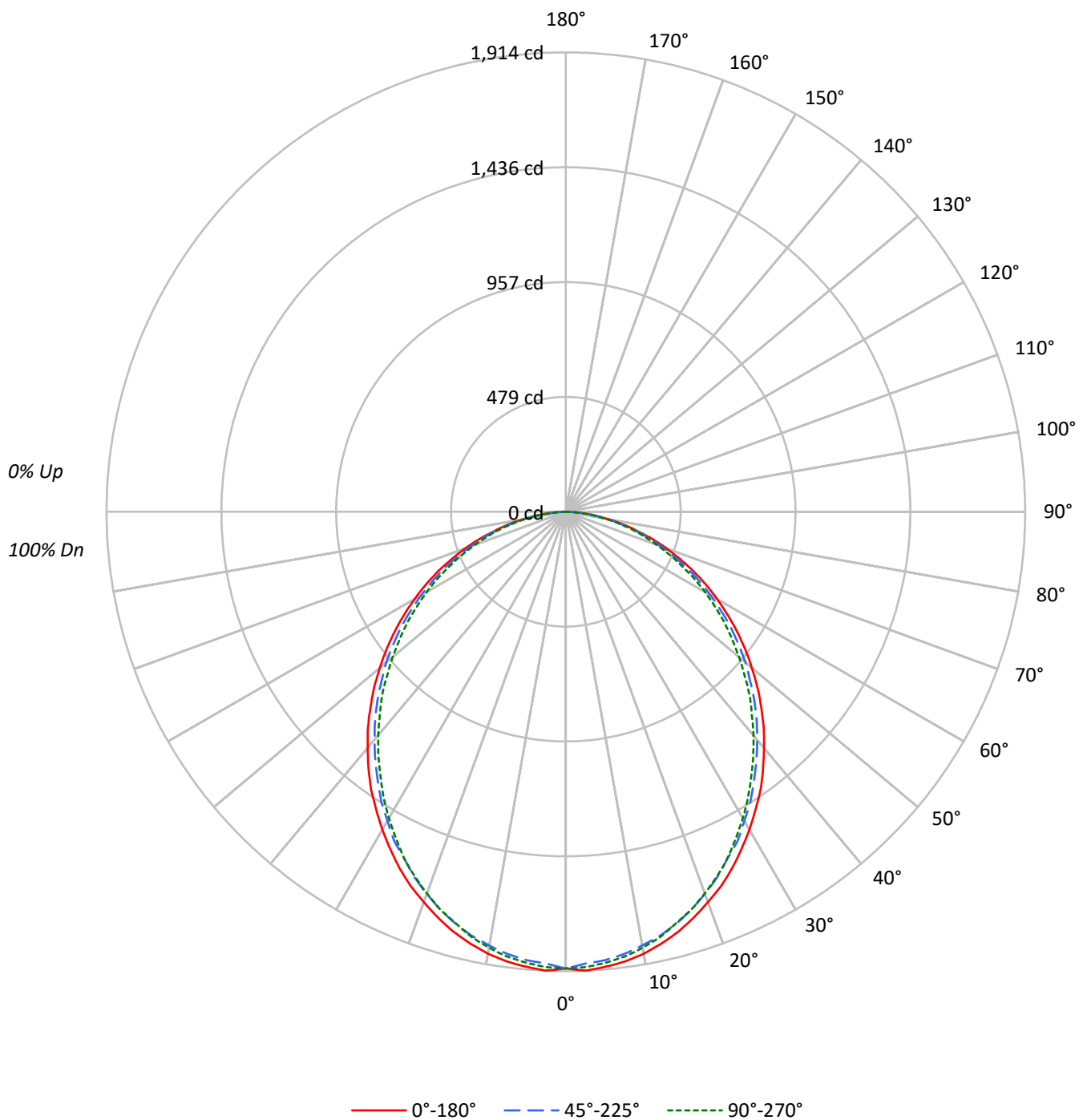
Lumens per Lamp: N/A
Luminaire Lumens: 4841.1 lumens
Efficiency: N/A
Efficacy: 79.2 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular (W 3.28' x L: 2.84' x H: 0')
CIE Type: Direct

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
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°	2204	2204	2204
5°	2212	2181	2193
10°	2199	2158	2169
15°	2172	2130	2128
20°	2133	2088	2086
25°	2095	2037	2037
30°	2046	1990	1972
35°	2000	1933	1904
40°	1942	1876	1840
45°	1885	1819	1774
50°	1823	1761	1698
55°	1759	1692	1630
60°	1687	1611	1551
65°	1610	1530	1459
70°	1512	1431	1364
75°	1375	1318	1286
80°	1221	1183	1123
85°	995	949	852

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
Vertical Angle: 45°
Luminance: 1885 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	179.1	3.7
10°-20°	503.9	10.4
20°-30°	740.5	15.3
30°-40°	860.0	17.8
40°-50°	859.0	17.7
50°-60°	749.0	15.5
60°-70°	553.7	11.4
70°-80°	313.3	6.5
80°-90°	82.7	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°	1423.5	29.4
0°-40°	2283.5	47.2
0°-60°	3891.5	80.4
0°-90°	4841.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4841.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1903	1903	1903	1903	1903	
5°	1903	1896	1875	1890	1886	181
15°	1811	1800	1776	1784	1775	510
25°	1639	1625	1594	1597	1594	754
35°	1414	1396	1367	1356	1346	883
45°	1151	1138	1110	1091	1083	888
55°	871	860	838	816	807	779
65°	587	576	558	542	532	581
75°	307	304	294	284	287	328
85°	75	73	71	66	64	88
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1902.7	1902.7	1902.7	1902.7	1902.7
2.5°	1913.8	1904.7	1884.4	1902.7	1899.2
5°	1902.7	1895.5	1875.3	1889.9	1886.4
7.5°	1889.9	1879.1	1858.9	1873.6	1869.9
10°	1869.9	1857.1	1835.1	1849.7	1844.3
12.5°	1842.4	1831.5	1809.5	1818.7	1815.0
15°	1811.3	1800.4	1776.5	1784.0	1774.8
17.5°	1772.9	1762.0	1738.2	1747.2	1738.2
20°	1730.7	1719.9	1694.2	1699.7	1692.5
22.5°	1688.8	1672.3	1648.4	1648.4	1644.8
25°	1639.3	1624.8	1593.7	1597.2	1593.7
27.5°	1584.4	1571.6	1547.8	1542.5	1533.3
30°	1529.7	1514.8	1487.5	1482.1	1474.7
32.5°	1471.0	1460.2	1430.8	1419.7	1412.4
35°	1414.4	1396.1	1366.8	1355.7	1346.5
37.5°	1350.3	1333.7	1304.5	1291.6	1282.5
40°	1284.4	1269.7	1240.4	1224.1	1216.7
42.5°	1220.4	1205.6	1176.5	1158.1	1147.2
45°	1150.9	1138.1	1110.5	1090.6	1083.1
47.5°	1083.1	1070.3	1041.1	1020.9	1009.9
50°	1011.7	1002.6	977.0	951.3	942.2
52.5°	942.2	929.4	905.7	885.6	872.8
55°	871.0	859.9	838.0	816.1	806.9
57.5°	799.6	790.5	766.6	744.7	737.2
60°	728.1	720.9	695.4	675.1	669.7
62.5°	658.6	645.8	627.6	609.3	602.0
65°	587.4	576.4	558.1	541.6	532.4
67.5°	514.2	504.9	488.6	475.8	468.4
70°	446.5	439.1	422.6	409.8	402.6
72.5°	376.9	369.6	360.5	347.7	342.2
75°	307.3	303.8	294.5	283.6	287.3
77.5°	245.2	237.8	234.1	228.7	223.2
80°	183.0	181.1	177.4	172.0	168.3
82.5°	124.5	124.5	122.7	115.3	115.3
85°	74.9	73.2	71.4	65.8	64.1
87.5°	33.0	29.3	25.6	20.2	18.3
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	14.03	15.64	14.39	15.95	16.27	13.58	15.20	13.95	15.51	15.82
	3H	15.78	17.23	16.16	17.56	17.92	15.29	16.74	15.66	17.07	17.43
	4H	16.42	17.79	16.82	18.14	18.52	15.93	17.30	16.33	17.65	18.02
	6H	16.89	18.16	17.31	18.53	18.92	16.39	17.66	16.80	18.03	18.42
	8H	17.04	18.25	17.46	18.64	19.04	16.53	17.74	16.96	18.13	18.53
	12H	17.13	18.29	17.56	18.67	19.10	16.62	17.78	17.04	18.16	18.59
4H	2H	14.59	15.96	14.99	16.31	16.68	14.24	15.61	14.63	15.95	16.33
	3H	16.56	17.71	16.97	18.11	18.51	16.16	17.30	16.57	17.70	18.10
	4H	17.34	18.38	17.77	18.79	19.23	16.92	17.95	17.35	18.37	18.80
	6H	17.94	18.84	18.39	19.28	19.74	17.50	18.41	17.96	18.85	19.31
	8H	18.13	18.97	18.59	19.42	19.88	17.69	18.53	18.15	18.98	19.44
	12H	18.26	19.02	18.74	19.49	19.96	17.81	18.57	18.29	19.04	19.51
8H	4H	17.61	18.46	18.07	18.90	19.37	17.24	18.09	17.70	18.53	18.99
	6H	18.33	19.03	18.82	19.52	19.99	17.95	18.65	18.44	19.14	19.61
	8H	18.59	19.22	19.10	19.73	20.21	18.20	18.83	18.71	19.33	19.82
	12H	18.79	19.35	19.29	19.84	20.40	18.37	18.93	18.88	19.42	19.98
12H	4H	17.64	18.40	18.12	18.88	19.35	17.28	18.04	17.76	18.51	18.98
	6H	18.37	19.01	18.88	19.51	20.00	18.00	18.64	18.51	19.14	19.63
	8H	18.69	19.25	19.19	19.74	20.30	18.31	18.87	18.82	19.36	19.92