

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: P930115

Luminaire Tested: DFN2DS-HX2F0-060DS840-FLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P930115
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-HX2F0-060DS840-FLL
Description: 2 foot, Hexagon Define Geo, with Direct Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

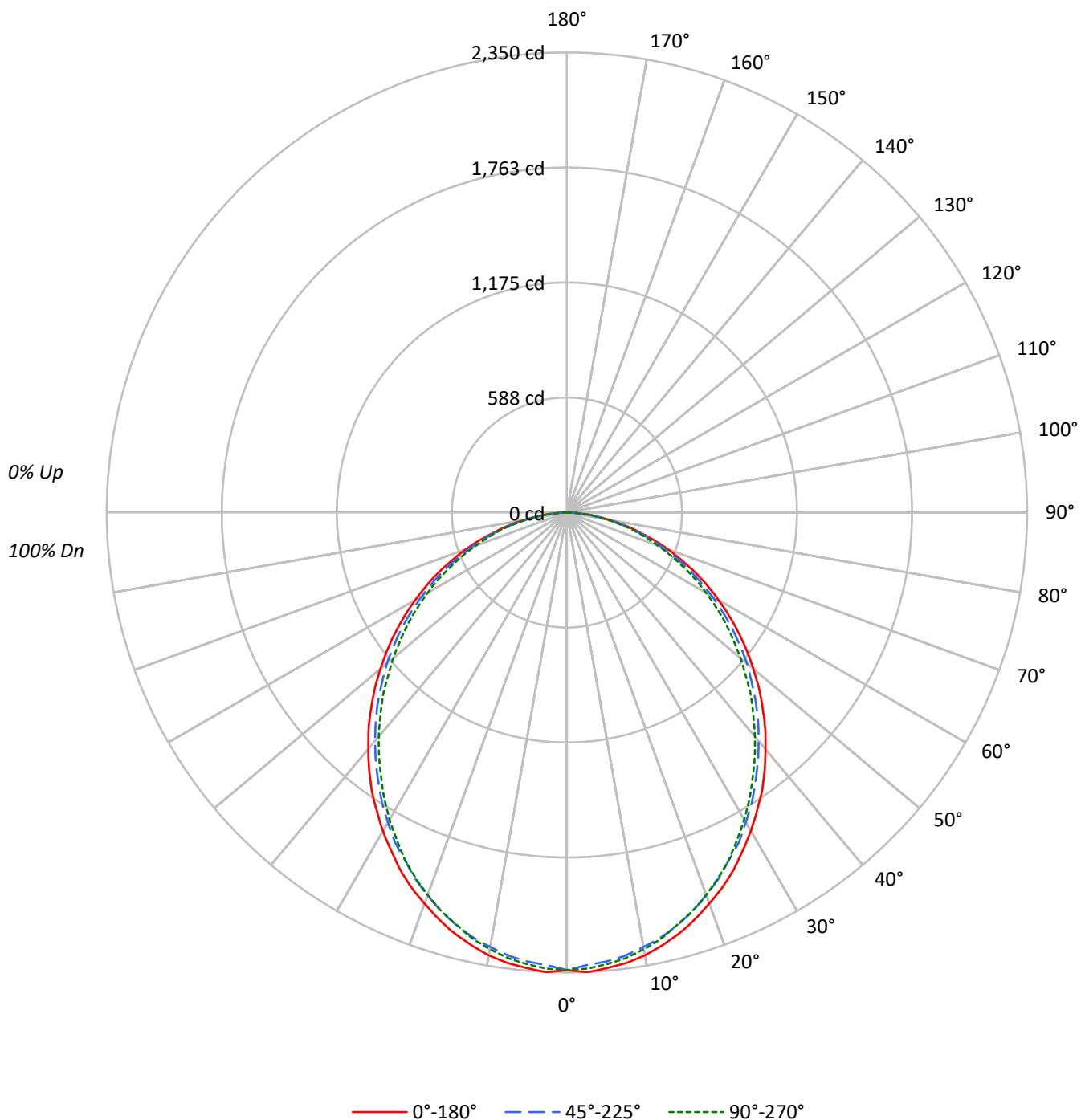
Lumens per Lamp: N/A
Luminaire Lumens: 5945.9 lumens
Efficiency: N/A
Efficacy: 96.2 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular (W 2.3' x L: 1.99' x H: 0')
CIE Type: Direct

Input Watts (W): 61.8
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9971
Total Harmonic Distortion (THDi): 0.049
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°	5506	5506	5506
5°	5527	5448	5480
10°	5495	5393	5419
15°	5426	5322	5317
20°	5330	5218	5212
25°	5234	5089	5089
30°	5112	4971	4928
35°	4996	4828	4757
40°	4852	4686	4596
45°	4710	4545	4433
50°	4555	4399	4242
55°	4395	4228	4071
60°	4214	4025	3876
65°	4022	3822	3646
70°	3777	3575	3407
75°	3436	3293	3213
80°	3050	2957	2805
85°	2487	2371	2128

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 4710 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	220.0	3.7
10°-20°	618.9	10.4
20°-30°	909.5	15.3
30°-40°	1056.3	17.8
40°-50°	1055.0	17.7
50°-60°	919.9	15.5
60°-70°	680.0	11.4
70°-80°	384.8	6.5
80°-90°	101.5	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°	1748.3	29.4
0°-40°	2804.6	47.2
0°-60°	4779.6	80.4
0°-90°	5945.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5945.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2337	2337	2337	2337	2337	
5°	2337	2328	2303	2321	2317	222
15°	2225	2211	2182	2191	2180	627
25°	2013	1996	1957	1962	1957	926
35°	1737	1715	1679	1665	1654	1085
45°	1414	1398	1364	1339	1330	1091
55°	1070	1056	1029	1002	991	956
65°	721	708	686	665	654	713
75°	377	373	362	348	353	403
85°	92	90	88	81	79	108
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2336.9	2336.9	2336.9	2336.9	2336.9
2.5°	2350.5	2339.3	2314.5	2336.9	2332.6
5°	2336.9	2328.1	2303.3	2321.2	2316.9
7.5°	2321.2	2307.9	2283.1	2301.2	2296.7
10°	2296.7	2281.0	2254.0	2271.9	2265.2
12.5°	2262.9	2249.4	2222.5	2233.7	2229.2
15°	2224.6	2211.3	2182.0	2191.1	2179.9
17.5°	2177.5	2164.2	2134.8	2145.9	2134.8
20°	2125.7	2112.4	2080.9	2087.6	2078.8
22.5°	2074.3	2054.0	2024.6	2024.6	2020.1
25°	2013.4	1995.6	1957.4	1961.7	1957.4
27.5°	1945.9	1930.2	1901.1	1894.5	1883.3
30°	1878.8	1860.6	1827.0	1820.3	1811.2
32.5°	1806.7	1793.4	1757.4	1743.7	1734.7
35°	1737.1	1714.7	1678.7	1665.1	1653.9
37.5°	1658.5	1638.1	1602.2	1586.4	1575.2
40°	1577.6	1559.5	1523.5	1503.5	1494.4
42.5°	1498.9	1480.8	1445.0	1422.4	1409.0
45°	1413.6	1397.8	1364.0	1339.4	1330.3
47.5°	1330.3	1314.6	1278.7	1253.9	1240.4
50°	1242.6	1231.4	1200.0	1168.5	1157.3
52.5°	1157.3	1141.5	1112.4	1087.7	1072.0
55°	1069.8	1056.2	1029.2	1002.3	991.1
57.5°	982.1	970.9	941.5	914.6	905.5
60°	894.3	885.5	854.1	829.2	822.5
62.5°	808.9	793.2	770.8	748.3	739.3
65°	721.4	707.9	685.5	665.2	654.0
67.5°	631.5	620.1	600.1	584.4	575.3
70°	548.3	539.3	519.0	503.3	494.5
72.5°	463.0	454.0	442.7	427.0	420.3
75°	377.4	373.2	361.7	348.3	352.9
77.5°	301.1	292.1	287.5	280.9	274.2
80°	224.8	222.4	217.9	211.2	206.7
82.5°	152.9	152.9	150.7	141.6	141.6
85°	92.0	89.9	87.7	80.8	78.7
87.5°	40.5	36.0	31.4	24.8	22.4
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	17.21	18.82	17.57	19.13	19.45	16.77	18.38	17.13	18.69	19.00
	3H	18.96	20.41	19.34	20.74	21.10	18.47	19.92	18.85	20.25	20.61
	4H	19.61	20.97	20.00	21.32	21.70	19.11	20.48	19.51	20.83	21.20
	6H	20.08	21.34	20.49	21.71	22.10	19.57	20.84	19.98	21.21	21.60
	8H	20.22	21.43	20.64	21.82	22.22	19.72	20.93	20.14	21.31	21.71
	12H	20.31	21.47	20.74	21.85	22.28	19.80	20.96	20.23	21.34	21.77
4H	2H	17.77	19.14	18.17	19.49	19.86	17.42	18.79	17.82	19.13	19.51
	3H	19.75	20.89	20.15	21.29	21.69	19.34	20.48	19.75	20.88	21.28
	4H	20.52	21.56	20.95	21.97	22.41	20.10	21.13	20.53	21.55	21.98
	6H	21.12	22.02	21.57	22.46	22.92	20.69	21.59	21.14	22.03	22.49
	8H	21.31	22.15	21.77	22.60	23.06	20.87	21.72	21.33	22.16	22.62
	12H	21.44	22.20	21.92	22.68	23.14	20.99	21.75	21.47	22.22	22.69
8H	4H	20.80	21.64	21.26	22.08	22.55	20.42	21.27	20.88	21.71	22.18
	6H	21.51	22.21	22.00	22.70	23.18	21.13	21.83	21.62	22.32	22.79
	8H	21.77	22.40	22.28	22.91	23.39	21.38	22.01	21.89	22.51	23.00
	12H	21.97	22.53	22.48	23.02	23.58	21.56	22.11	22.06	22.60	23.16
12H	4H	20.82	21.58	21.30	22.06	22.53	20.46	21.22	20.94	21.69	22.16
	6H	21.55	22.19	22.06	22.69	23.18	21.19	21.82	21.70	22.32	22.81
	8H	21.87	22.43	22.38	22.92	23.48	21.49	22.05	22.00	22.54	23.10