

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: P930039

Luminaire Tested: DFN2DS-HX2F0-020DS830-FLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P930039
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-HX2F0-020DS830-FLL
Description: 2 foot, Hexagon Define Geo, with Direct Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

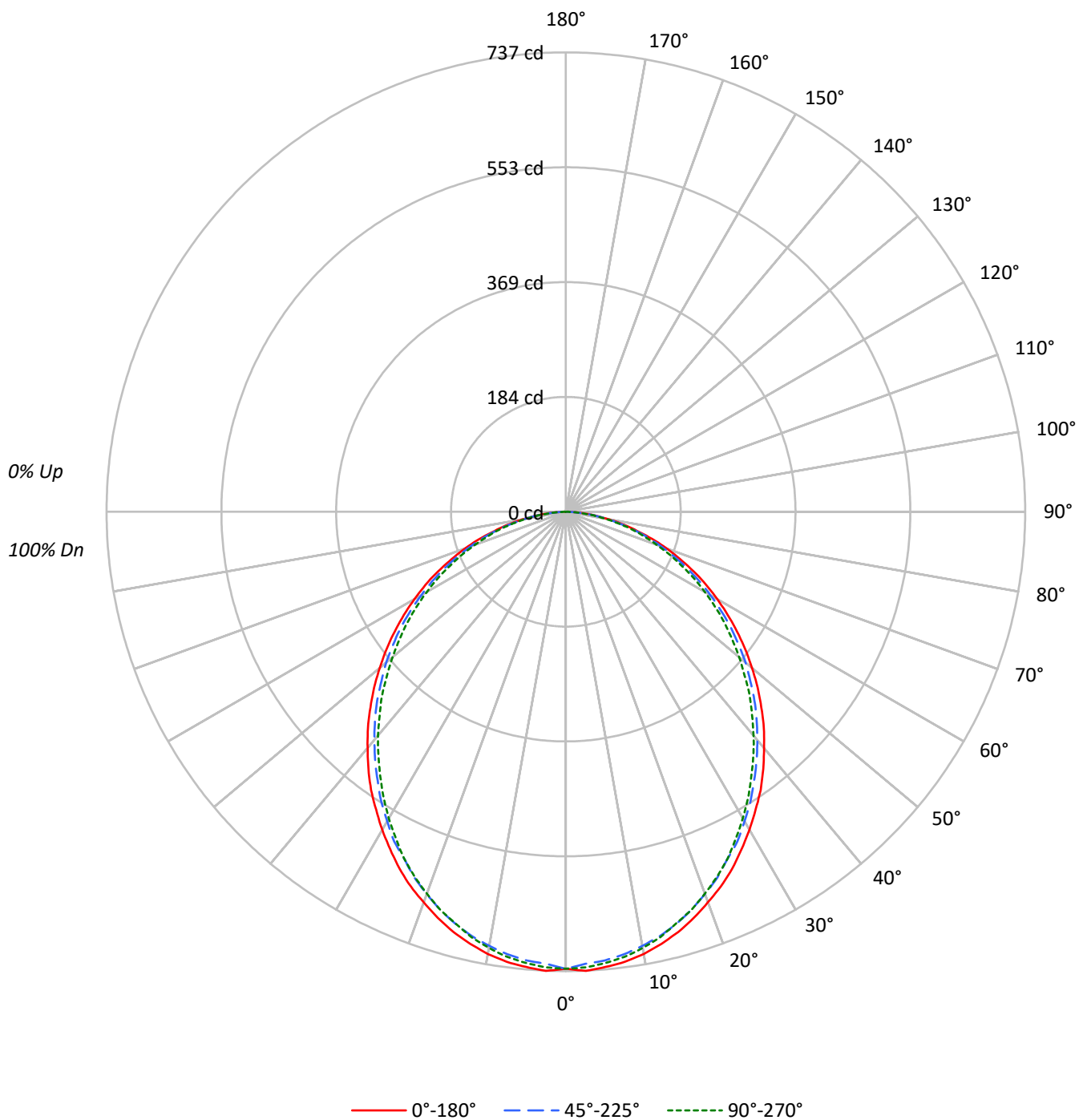
Lumens per Lamp: N/A
Luminaire Lumens: 1865.2 lumens
Efficiency: N/A
Efficacy: 106.0 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular (W 2.3' x L: 1.99' x H: 0')
CIE Type: Direct

Input Watts (W): 17.6
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9968
Total Harmonic Distortion (THDi): 0.064
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°	1727	1727	1727
5°	1734	1709	1719
10°	1724	1692	1700
15°	1702	1670	1668
20°	1672	1637	1635
25°	1642	1596	1596
30°	1603	1559	1546
35°	1567	1515	1492
40°	1522	1470	1442
45°	1477	1426	1390
50°	1429	1380	1331
55°	1378	1326	1277
60°	1322	1262	1216
65°	1262	1199	1144
70°	1185	1122	1068
75°	1078	1032	1008
80°	958	928	879
85°	779	743	668

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 1477 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	69.0	3.7
10°-20°	194.1	10.4
20°-30°	285.3	15.3
30°-40°	331.4	17.8
40°-50°	330.9	17.7
50°-60°	288.6	15.5
60°-70°	213.3	11.4
70°-80°	120.7	6.5
80°-90°	31.9	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°	548.4	29.4
0°-40°	879.8	47.2
0°-60°	1499.3	80.4
0°-90°	1865.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1865.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	733	733	733	733	733	
5°	733	730	722	728	727	70
15°	698	694	684	687	684	197
25°	632	626	614	615	614	291
35°	545	538	527	522	519	340
45°	443	438	428	420	417	342
55°	336	331	323	314	311	300
65°	226	222	215	209	205	224
75°	118	117	113	109	111	126
85°	29	28	28	25	25	34
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	733.1	733.1	733.1	733.1	733.1
2.5°	737.3	733.8	726.0	733.1	731.7
5°	733.1	730.3	722.5	728.2	726.8
7.5°	728.2	723.9	716.2	721.9	720.4
10°	720.4	715.5	707.1	712.6	710.6
12.5°	709.8	705.7	697.2	700.7	699.2
15°	697.8	693.7	684.5	687.3	683.8
17.5°	683.0	678.9	669.7	673.2	669.7
20°	666.8	662.6	652.7	654.9	652.1
22.5°	650.6	644.3	635.1	635.1	633.7
25°	631.6	626.0	614.0	615.3	614.0
27.5°	610.4	605.5	596.4	594.3	590.7
30°	589.3	583.7	573.1	571.0	568.1
32.5°	566.7	562.6	551.3	547.0	544.2
35°	544.9	537.9	526.6	522.3	518.8
37.5°	520.3	513.9	502.6	497.7	494.1
40°	494.8	489.2	477.9	471.7	468.7
42.5°	470.2	464.5	453.3	446.2	442.0
45°	443.4	438.5	427.9	420.1	417.3
47.5°	417.3	412.4	401.1	393.3	389.1
50°	389.8	386.3	376.4	366.5	363.0
52.5°	363.0	358.1	348.9	341.2	336.3
55°	335.5	331.3	322.8	314.4	310.9
57.5°	308.0	304.5	295.3	286.9	284.0
60°	280.5	277.8	267.9	260.1	258.0
62.5°	253.8	248.8	241.8	234.7	231.9
65°	226.3	222.0	215.1	208.7	205.2
67.5°	198.1	194.5	188.2	183.3	180.5
70°	172.0	169.2	162.8	157.9	155.1
72.5°	145.3	142.4	138.9	134.0	131.9
75°	118.4	117.1	113.4	109.3	110.7
77.5°	94.5	91.7	90.1	88.1	86.0
80°	70.6	69.8	68.4	66.2	64.8
82.5°	47.9	47.9	47.3	44.5	44.5
85°	28.8	28.2	27.5	25.3	24.7
87.5°	12.7	11.3	9.9	7.8	7.1
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	13.18	14.79	13.55	15.11	15.42	12.74	14.35	13.10	14.66	14.98
	3H	14.93	16.39	15.31	16.71	17.07	14.44	15.89	14.82	16.22	16.58
	4H	15.58	16.95	15.98	17.29	17.67	15.08	16.45	15.48	16.80	17.18
	6H	16.05	17.32	16.46	17.68	18.07	15.55	16.81	15.96	17.18	17.57
	8H	16.19	17.40	16.62	17.79	18.19	15.69	16.90	16.11	17.29	17.69
	12H	16.28	17.44	16.71	17.82	18.25	15.77	16.93	16.20	17.31	17.74
4H	2H	13.74	15.11	14.14	15.46	15.83	13.39	14.76	13.79	15.11	15.48
	3H	15.72	16.86	16.13	17.26	17.66	15.31	16.46	15.72	16.85	17.25
	4H	16.49	17.53	16.93	17.94	18.38	16.07	17.11	16.50	17.52	17.96
	6H	17.09	18.00	17.55	18.44	18.89	16.66	17.56	17.11	18.00	18.46
	8H	17.28	18.13	17.74	18.57	19.03	16.84	17.69	17.30	18.13	18.60
	12H	17.41	18.17	17.89	18.65	19.12	16.96	17.72	17.44	18.20	18.67
8H	4H	16.77	17.61	17.23	18.06	18.52	16.39	17.24	16.85	17.68	18.15
	6H	17.48	18.19	17.98	18.67	19.15	17.10	17.80	17.59	18.29	18.77
	8H	17.74	18.37	18.25	18.88	19.36	17.35	17.98	17.86	18.49	18.97
	12H	17.94	18.50	18.45	18.99	19.55	17.53	18.09	18.03	18.58	19.14
12H	4H	16.79	17.55	17.27	18.03	18.50	16.43	17.19	16.91	17.66	18.13
	6H	17.53	18.16	18.04	18.67	19.15	17.16	17.79	17.67	18.30	18.78
	8H	17.84	18.40	18.35	18.89	19.45	17.46	18.02	17.97	18.51	19.07