

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: P905172

Luminaire Tested: DFN2DIP-HX2F0-030D030US835-RLLFLL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P905172
REPORT IS A COMBINATION OF REPORTS P899164 AND P896039
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-HX2F0-030D030US835-RLLFLL
Description: 2 foot, Hexagon Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

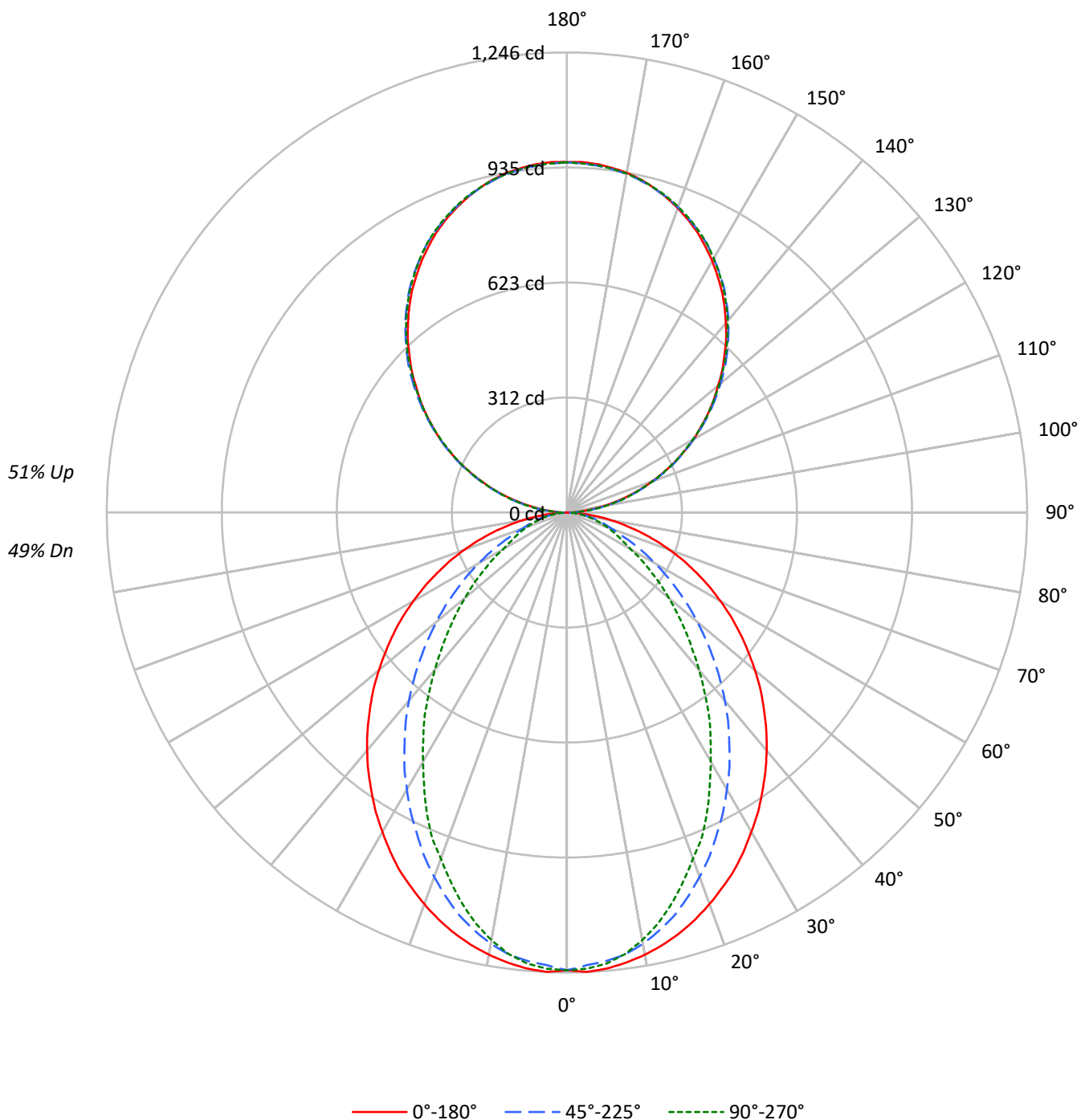
Lumens per Lamp: N/A
Luminaire Lumens: 5204.9 lumens
Efficiency: N/A
Efficacy: 110.7 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular w/ Sides (W: 1.99' x L: 2.3' x H: 0.1')
CIE Type: General Diffuse

Input Watts (W): 47
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9951
Total Harmonic Distortion (THDi): 0.07
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	30	10
RCR																	
0	107	107	107	107	99	99	99	99	83	83	83	68	68	68	55	55	55
1	98	94	90	87	90	87	84	81	73	71	69	61	59	58	50	49	48
2	90	83	77	72	82	76	71	67	65	61	58	54	51	49	44	42	41
3	82	73	66	60	75	68	61	57	58	53	49	48	45	42	40	37	35
4	75	65	57	51	69	60	54	48	51	46	42	43	40	36	36	33	31
5	69	58	50	44	64	54	47	42	46	41	37	39	35	32	32	29	27
6	64	52	44	39	59	49	42	37	42	36	32	35	31	28	30	26	24
7	59	47	40	34	55	44	37	32	38	33	29	32	28	25	27	24	22
8	55	43	36	30	51	40	33	29	35	29	26	30	26	23	25	22	20
9	51	39	32	27	47	37	30	26	32	27	23	27	23	20	23	20	18
10	48	36	29	24	44	34	28	23	30	24	21	25	21	19	22	18	16

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2921	2921	2921
5°	2921	2868	2888
10°	2888	2805	2789
15°	2843	2705	2639
20°	2786	2571	2456
25°	2728	2422	2280
30°	2650	2270	2059
35°	2575	2107	1864
40°	2497	1939	1643
45°	2408	1753	1442
50°	2315	1567	1246
55°	2217	1368	1058
60°	2104	1162	866
65°	1974	953	774
70°	1816	758	692
75°	1616	655	619
80°	1331	530	522
85°	870	327	366

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 2408 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	116.2	2.2
10°-20°	319.0	6.1
20°-30°	447.9	8.6
30°-40°	488.2	9.4
40°-50°	448.7	8.6
50°-60°	352.4	6.8
60°-70°	229.4	4.4
70°-80°	118.1	2.3
80°-90°	32.8	0.6
90°-100°	58.7	1.1
100°-110°	186.5	3.6
110°-120°	319.2	6.1
120°-130°	419.8	8.1
130°-140°	471.2	9.1
140°-150°	462.1	8.9
150°-160°	387.7	7.4
160°-170°	257.1	4.9
170°-180°	89.9	1.7
0°-30°	883.1	17.0
0°-40°	1371.3	26.3
0°-60°	2172.4	41.7
0°-90°	2552.7	49.0
90°-120°	564.5	10.8
90°-150°	1917.7	36.8
90°-180°	2652.0	51.0
0°-180°	5204.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1240	1240	1240	1240	1240	
5°	1240	1234	1220	1230	1226	118
15°	1179	1167	1129	1108	1096	332
25°	1070	1034	960	914	898	492
35°	922	865	766	696	671	577
45°	754	679	561	481	454	582
55°	573	486	365	297	276	512
65°	387	296	195	157	154	384
75°	206	128	90	82	81	218
85°	48	25	21	21	21	55
90°	1	10	28	26	27	5
95°	42	50	51	51	50	46
105°	172	174	176	178	178	182
115°	320	325	324	323	320	317
125°	466	473	471	468	467	416
135°	603	612	613	612	610	466
145°	732	737	742	743	740	457
155°	837	839	842	846	843	385
165°	910	909	909	915	911	257
175°	947	945	943	949	944	90
180°	949	949	949	949	949	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1239.9	1239.9	1239.9	1239.9	1239.9
2.5°	1245.5	1239.9	1227.5	1238.8	1236.6
5°	1239.9	1234.3	1219.7	1229.8	1226.4
7.5°	1229.8	1223.1	1207.4	1211.8	1206.2
10°	1216.3	1208.5	1186.1	1182.6	1176.0
12.5°	1199.5	1189.4	1159.1	1152.4	1140.0
15°	1179.3	1166.9	1128.8	1107.5	1096.3
17.5°	1155.7	1137.8	1090.6	1066.0	1048.0
20°	1128.8	1106.3	1050.2	1022.3	997.5
22.5°	1099.7	1073.8	1008.7	970.6	953.8
25°	1070.5	1034.5	960.5	914.5	897.6
27.5°	1035.7	997.5	915.6	862.9	837.0
30°	998.7	956.0	866.2	809.1	778.7
32.5°	962.7	911.1	819.2	751.8	723.7
35°	922.4	865.1	766.4	695.7	671.0
37.5°	883.1	821.3	717.0	639.5	611.6
40°	841.6	774.3	665.4	585.7	556.6
42.5°	798.9	727.2	613.8	530.7	502.7
45°	754.1	678.8	561.1	481.3	454.4
47.5°	711.4	631.8	510.6	430.8	406.2
50°	664.3	584.6	461.2	383.7	360.2
52.5°	618.2	534.1	414.1	340.0	318.7
55°	573.3	485.8	364.6	297.4	276.1
57.5°	527.4	437.6	321.0	258.1	240.1
60°	480.2	390.5	274.9	217.7	199.8
62.5°	434.3	344.5	235.6	181.8	172.9
65°	387.1	296.2	195.2	157.1	153.7
67.5°	342.3	251.3	157.1	138.0	134.6
70°	295.1	207.6	130.1	118.9	114.4
72.5°	250.2	167.1	108.8	99.9	97.6
75°	206.4	127.9	89.8	81.9	80.8
77.5°	162.7	90.8	70.7	66.2	63.9
80°	122.3	65.1	53.8	49.4	49.4
82.5°	85.2	43.8	37.0	34.8	34.8
85°	48.2	24.6	21.3	21.3	21.3
87.5°	18.0	8.9	8.9	7.9	7.9
90°	0.9	10.3	28.0	26.3	27.2
92.5°	17.7	24.0	24.9	25.7	25.7
95°	41.8	49.8	51.2	51.2	49.8
97.5°	69.5	76.9	80.1	80.1	80.1
100°	101.5	108.1	110.4	110.4	109.6
102.5°	135.3	140.2	143.3	144.2	143.3
105°	172.2	174.5	176.2	177.6	177.6
107.5°	208.8	212.2	212.2	212.8	208.8
110°	244.3	248.9	248.9	248.9	246.6



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	282.6	287.5	286.6	284.3	282.6
115°	320.4	324.9	323.5	322.7	320.4
117.5°	357.8	364.1	360.1	357.8	355.5
120°	395.6	401.9	395.6	395.6	393.0
122.5°	429.9	437.9	433.9	431.6	429.9
125°	466.0	473.1	470.8	468.2	467.4
127.5°	501.1	510.0	506.9	503.4	501.1
130°	534.0	544.3	542.9	541.2	538.0
132.5°	570.9	578.9	579.5	575.5	573.2
135°	602.7	611.5	613.3	612.4	610.1
137.5°	638.1	645.3	646.7	646.2	642.7
140°	669.3	676.5	680.5	680.5	677.3
142.5°	701.4	708.5	710.8	711.7	708.5
145°	731.7	737.4	742.0	742.8	739.7
147.5°	758.9	766.0	769.4	770.9	767.7
150°	786.9	791.8	794.9	797.5	794.9
152.5°	811.8	816.6	820.6	823.8	820.6
155°	836.7	838.9	841.5	845.5	843.0
157.5°	858.1	859.8	861.3	867.0	863.0
160°	877.3	879.0	879.9	884.7	881.3
162.5°	895.0	895.0	895.9	901.3	897.3
165°	910.2	909.3	909.3	915.0	911.0
167.5°	923.9	921.3	921.3	927.0	923.0
170°	934.2	931.9	931.1	936.8	931.9
172.5°	941.3	939.1	938.2	943.9	939.1
175°	947.1	944.8	943.1	948.8	943.9
177.5°	950.2	947.9	946.2	951.1	946.2
180°	948.8	948.8	948.8	948.8	948.8

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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	10.64	11.47	11.61	12.45	13.73	6.62	7.45	7.60	8.43	9.72
	3H	12.29	13.03	13.28	14.02	15.33	7.80	8.53	8.78	9.52	10.83
	4H	12.89	13.58	13.88	14.58	15.89	8.23	8.93	9.23	9.92	11.24
	6H	13.29	13.93	14.29	14.93	16.26	8.54	9.18	9.55	10.18	11.51
	8H	13.40	14.01	14.41	15.03	16.35	8.62	9.23	9.64	10.25	11.57
	12H	13.45	14.03	14.47	15.04	16.39	8.66	9.24	9.68	10.25	11.60
4H	2H	10.66	11.35	11.66	12.35	13.66	7.21	7.90	8.21	8.90	10.21
	3H	12.46	13.03	13.47	14.06	15.39	8.53	9.11	9.55	10.14	11.47
	4H	13.13	13.66	14.15	14.67	16.03	9.07	9.60	10.09	10.61	11.97
	6H	13.62	14.07	14.65	15.11	16.46	9.47	9.92	10.50	10.96	12.31
	8H	13.78	14.20	14.81	15.24	16.60	9.59	10.01	10.62	11.04	12.41
	12H	13.86	14.24	14.91	15.29	16.66	9.64	10.03	10.69	11.07	12.44
8H	4H	13.09	13.51	14.12	14.55	15.91	9.33	9.76	10.36	10.79	12.15
	6H	13.63	13.98	14.68	15.05	16.42	9.83	10.18	10.88	11.25	12.61
	8H	13.83	14.14	14.89	15.20	16.58	10.01	10.31	11.07	11.37	12.75
	12H	13.95	14.22	15.02	15.27	16.70	10.11	10.38	11.18	11.43	12.86
12H	4H	13.04	13.42	14.09	14.47	15.84	9.33	9.72	10.38	10.76	12.13
	6H	13.60	13.91	14.67	14.97	16.35	9.87	10.18	10.93	11.24	12.62
	8H	13.81	14.08	14.87	15.13	16.56	10.07	10.34	11.13	11.39	12.81

END OF REPORT