

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: P904492

Luminaire Tested: DFN2DIP-TR3F0-080D030US830-RLLFLL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P904492
REPORT IS A COMBINATION OF REPORTS P900282 AND P897195
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-TR3F0-080D030US830-RLLFLL
Description: 3 foot, Triangle Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

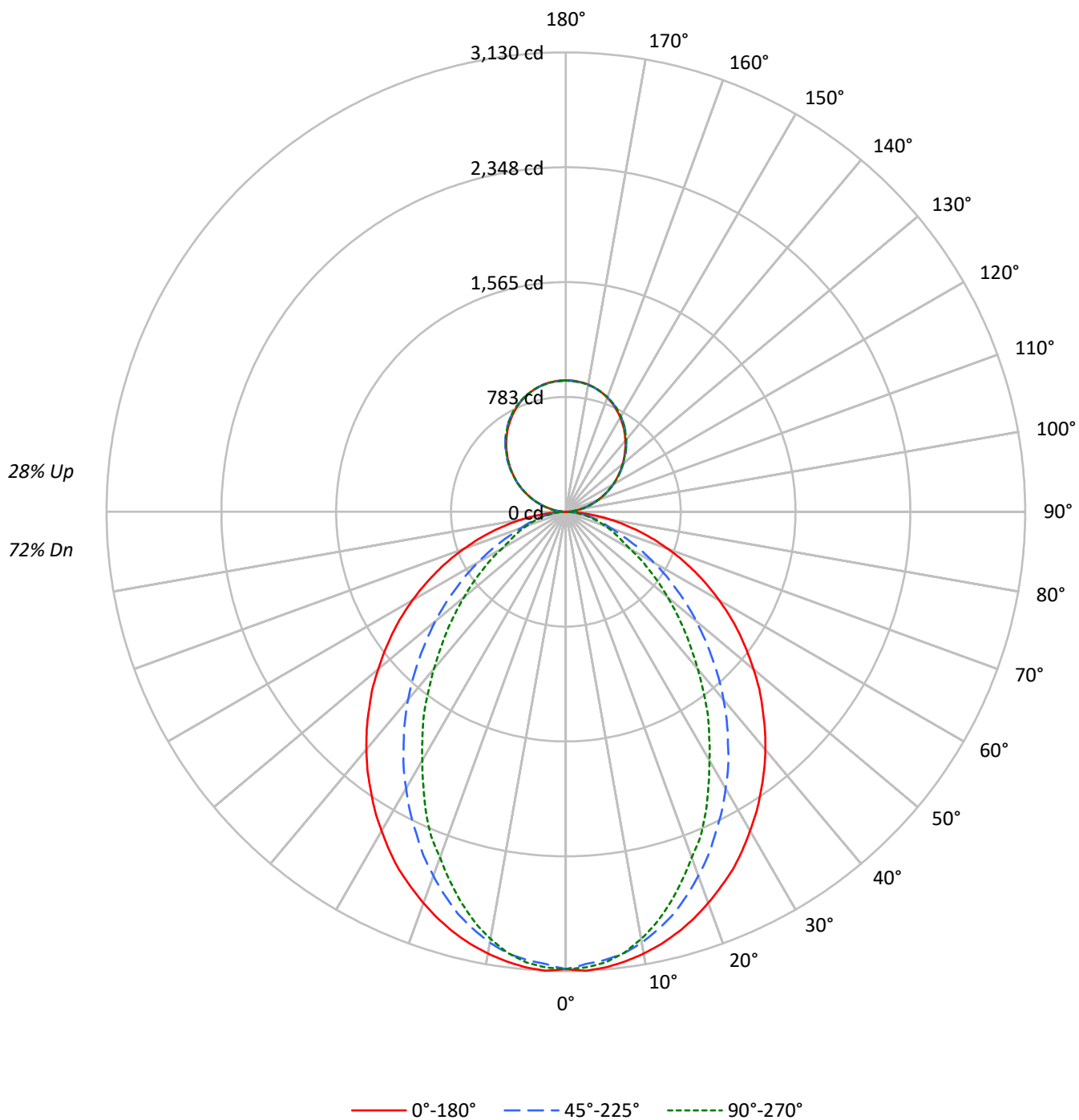
Lumens per Lamp: N/A
Luminaire Lumens: 8911.8 lumens
Efficiency: N/A
Efficacy: 86.0 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular w/ Sides (W: 2.74' x L: 3.16' x H: 0.1')
CIE Type: Semi-Direct

Input Watts (W): 103.6
Input Voltage (V):
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	30	10
RCR																	
0	112	112	112	112	106	106	106	106	96	96	96	85	85	85	76	76	76
1	103	99	95	92	98	94	91	88	85	82	80	76	75	73	69	67	66
2	95	87	81	76	90	83	78	73	75	71	67	68	65	62	61	59	57
3	87	78	70	65	82	74	67	62	67	62	58	61	57	53	55	52	49
4	80	69	61	55	76	66	59	53	60	54	50	55	50	46	50	46	43
5	74	62	54	48	70	59	52	47	54	48	44	49	45	41	45	41	38
6	68	56	48	42	65	54	46	41	49	43	39	45	40	36	41	37	34
7	63	51	43	38	60	49	42	36	45	39	34	41	36	32	38	33	30
8	59	47	39	34	56	45	38	33	41	35	31	38	33	29	35	31	27
9	55	43	35	30	52	41	34	30	38	32	28	35	30	26	32	28	25
10	52	40	32	28	49	38	31	27	35	29	25	33	28	24	30	26	23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3883	3883	3883
5°	3887	3818	3844
10°	3847	3740	3716
15°	3792	3613	3520
20°	3719	3440	3281
25°	3646	3246	3050
30°	3547	3048	2758
35°	3450	2835	2501
40°	3352	2615	2208
45°	3238	2371	1942
50°	3119	2125	1682
55°	2995	1863	1433
60°	2852	1589	1177
65°	2687	1311	1056
70°	2486	1052	952
75°	2234	920	861
80°	1869	762	738
85°	1272	493	539

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 3238 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	292.1	3.3
10°-20°	801.8	9.0
20°-30°	1125.7	12.6
30°-40°	1227.1	13.8
40°-50°	1127.8	12.7
50°-60°	885.7	9.9
60°-70°	576.5	6.5
70°-80°	296.8	3.3
80°-90°	78.3	0.9
90°-100°	55.3	0.6
100°-110°	175.8	2.0
110°-120°	300.9	3.4
120°-130°	395.7	4.4
130°-140°	444.2	5.0
140°-150°	435.6	4.9
150°-160°	365.4	4.1
160°-170°	242.3	2.7
170°-180°	84.7	1.0
0°-30°	2219.6	24.9
0°-40°	3446.7	38.7
0°-60°	5460.2	61.3
0°-90°	6411.9	71.9
90°-120°	532.1	6.0
90°-150°	1807.5	20.3
90°-180°	2500.0	28.1
0°-180°	8911.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3116	3116	3116	3116	3116	
5°	3116	3102	3066	3091	3083	296
15°	2964	2933	2837	2784	2756	835
25°	2691	2600	2414	2299	2256	1237
35°	2318	2174	1926	1749	1686	1451
45°	1895	1706	1410	1210	1142	1464
55°	1441	1221	916	747	694	1288
65°	973	744	491	395	386	965
75°	519	321	226	206	203	549
85°	121	62	54	54	54	139
90°	1	10	26	25	26	9
95°	39	47	48	48	47	44
105°	162	164	166	167	167	171
115°	302	306	305	304	302	299
125°	439	446	444	441	440	392
135°	568	576	578	577	575	439
145°	690	695	699	700	697	431
155°	789	791	793	797	795	363
165°	858	857	857	862	859	242
175°	893	890	889	894	890	85
180°	894	894	894	894	894	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3116.4	3116.4	3116.4	3116.4	3116.4
2.5°	3130.5	3116.4	3085.3	3113.7	3108.0
5°	3116.4	3102.4	3065.5	3091.0	3082.6
7.5°	3091.0	3074.2	3034.7	3045.8	3031.7
10°	3057.1	3037.4	2981.2	2972.5	2955.7
12.5°	3015.0	2989.6	2913.2	2896.4	2865.3
15°	2964.1	2933.0	2837.2	2783.7	2755.5
17.5°	2904.8	2859.7	2741.2	2679.3	2634.0
20°	2837.2	2780.7	2639.8	2569.5	2507.2
22.5°	2763.9	2699.0	2535.3	2439.6	2397.4
25°	2690.6	2600.3	2414.1	2298.7	2256.2
27.5°	2603.2	2507.2	2301.3	2168.8	2103.8
30°	2510.2	2402.7	2177.2	2033.5	1957.2
32.5°	2419.8	2290.0	2059.0	1889.6	1819.0
35°	2318.4	2174.4	1926.4	1748.7	1686.4
37.5°	2219.6	2064.4	1802.2	1607.4	1537.1
40°	2115.3	1946.2	1672.4	1472.2	1398.8
42.5°	2008.1	1827.7	1542.8	1334.0	1263.6
45°	1895.3	1706.2	1410.2	1209.8	1142.2
47.5°	1788.2	1588.0	1283.4	1082.9	1021.0
50°	1669.6	1469.5	1159.2	964.4	905.4
52.5°	1553.9	1342.3	1040.7	854.6	801.1
55°	1441.1	1221.2	916.5	747.4	693.9
57.5°	1325.6	1099.9	806.7	648.8	603.5
60°	1207.0	981.5	690.9	547.2	502.1
62.5°	1091.6	865.9	592.2	456.9	434.5
65°	973.1	744.4	490.7	395.0	386.3
67.5°	860.3	631.7	395.0	346.8	338.5
70°	741.8	521.9	327.1	298.9	287.6
72.5°	629.0	420.1	273.5	251.1	245.3
75°	518.9	321.4	225.6	205.9	203.2
77.5°	409.1	228.3	177.8	166.4	160.7
80°	307.3	163.7	135.3	124.1	124.1
82.5°	214.2	110.1	93.0	87.4	87.4
85°	121.2	61.9	53.5	53.5	53.5
87.5°	45.1	22.4	22.4	19.8	19.8
90°	0.8	9.7	26.4	24.8	25.6
92.5°	16.7	22.6	23.5	24.2	24.2
95°	39.4	46.9	48.3	48.3	46.9
97.5°	65.5	72.5	75.5	75.5	75.5
100°	95.7	101.9	104.1	104.1	103.3
102.5°	127.5	132.1	135.1	135.9	135.1
105°	162.3	164.5	166.1	167.4	167.4
107.5°	196.8	200.0	200.0	200.6	196.8
110°	230.3	234.6	234.6	234.6	232.4

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	266.4	271.0	270.1	268.0	266.4
115°	302.0	306.2	304.9	304.2	302.0
117.5°	337.2	343.2	339.4	337.2	335.1
120°	372.9	378.8	372.9	372.9	370.4
122.5°	405.2	412.7	409.0	406.8	405.2
125°	439.2	445.9	443.7	441.3	440.5
127.5°	472.3	480.7	477.8	474.5	472.3
130°	503.3	513.0	511.7	510.1	507.1
132.5°	538.1	545.6	546.2	542.4	540.3
135°	568.1	576.4	578.1	577.2	575.0
137.5°	601.4	608.2	609.5	609.1	605.8
140°	630.8	637.6	641.4	641.4	638.4
142.5°	661.1	667.8	670.0	670.8	667.8
145°	689.7	695.0	699.4	700.1	697.2
147.5°	715.3	722.0	725.2	726.6	723.6
150°	741.7	746.3	749.2	751.7	749.2
152.5°	765.2	769.7	773.5	776.5	773.5
155°	788.6	790.7	793.1	796.9	794.6
157.5°	808.8	810.4	811.8	817.2	813.4
160°	826.9	828.5	829.3	833.9	830.7
162.5°	843.6	843.6	844.4	849.5	845.7
165°	857.9	857.1	857.1	862.4	858.7
167.5°	870.8	868.4	868.4	873.7	870.0
170°	880.5	878.4	877.6	883.0	878.4
172.5°	887.2	885.1	884.3	889.7	885.1
175°	892.7	890.5	888.9	894.3	889.7
177.5°	895.6	893.4	891.8	896.5	891.8
180°	894.3	894.3	894.3	894.3	894.3

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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	13.65	14.70	14.40	15.47	16.39	9.63	10.68	10.38	11.44	12.37
	3H	15.34	16.27	16.10	17.05	18.00	10.83	11.77	11.59	12.54	13.50
	4H	15.95	16.83	16.73	17.62	18.58	11.29	12.17	12.07	12.95	13.92
	6H	16.37	17.19	17.17	17.98	18.96	11.61	12.43	12.41	13.22	14.20
	8H	16.50	17.28	17.31	18.09	19.07	11.71	12.48	12.51	13.29	14.27
	12H	16.57	17.31	17.38	18.11	19.12	11.75	12.49	12.56	13.30	14.30
4H	2H	13.69	14.58	14.48	15.36	16.33	10.25	11.13	11.03	11.91	12.88
	3H	15.53	16.27	16.33	17.09	18.07	11.61	12.34	12.41	13.16	14.14
	4H	16.23	16.89	17.04	17.71	18.72	12.16	12.83	12.97	13.65	14.66
	6H	16.74	17.32	17.57	18.16	19.18	12.58	13.16	13.41	14.00	15.02
	8H	16.92	17.46	17.75	18.29	19.32	12.71	13.25	13.55	14.09	15.12
	12H	17.02	17.50	17.87	18.36	19.39	12.79	13.27	13.64	14.13	15.16
8H	4H	16.21	16.75	17.04	17.59	18.61	12.45	12.99	13.28	13.83	14.85
	6H	16.77	17.22	17.63	18.10	19.13	12.97	13.41	13.83	14.29	15.32
	8H	16.98	17.38	17.86	18.26	19.30	13.16	13.55	14.03	14.43	15.47
	12H	17.13	17.47	18.00	18.34	19.44	13.28	13.63	14.15	14.49	15.59
12H	4H	16.17	16.65	17.02	17.51	18.55	12.46	12.95	13.32	13.81	14.84
	6H	16.75	17.14	17.62	18.02	19.06	13.02	13.41	13.89	14.29	15.33
	8H	16.97	17.32	17.84	18.19	19.29	13.23	13.58	14.10	14.45	15.55